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Unedited transcript

Committee on the Peaceful Uses of Outer Space

437th Meeting
Wednesday, 4 June 1997, 3 p.m.
Vienna

Chairman: Mr. RAO (India)

The meeting was called to order at 3.15 p.m.

The CHAIRMAN: I now declare open the 437th meeting of the Committee on the Peaceful Uses of Outer Space.

This afternoon we will continue and conclude our consideration of agenda item 6, "Ways and means of maintaining outer space for peaceful purposes". We will also continue our joint consideration of items 7 and 9, "Report of the Scientific and Technical Subcommittee" and "Implementation of the Recommendations of UNISPACE 82, as well as preparations by the Preparatory Committee for the United Nations Third UNISPACE Conference".

Time permitting, and in order to make the best possible use of the conference facilities made available to us, we will also begin our consideration of agenda item 8, "Report of the Legal Subcommittee". As we appear to be working very efficiently thanks to the cooperation of all delegations, I would request all delegates to be prepared to speak on any and all items! In this way, once our consideration of one item is complete, we can move on to a new item. I therefore urge all delegations wishing to speak on these agenda items to inscribe their names on the list of speakers as soon as possible.

Tomorrow we will consider our joint consideration of agenda items 7 and 9, and we will continue our consideration of agenda item 8.

Ways and means of maintaining outer space for peaceful purposes (cont.)

The CHAIRMAN: The first speaker on my list is the distinguished representative of India.

Mr. M. NAIR (India): My delegation believes that efforts to further explore the ways and means of maintaining outer space for peaceful purposes should be continued. The Committee has considered this item on a priority basis for several years, but the progress has been slow.

The subject is a complex one, and there are still many divergent views which emerge in discussions within the Committee on this subject. Some progress has nevertheless been achieved. There is a common understanding that the strengthening of international cooperation in the peaceful uses of outer space is an effective way to maintain outer space for peaceful purposes. There is also broad agreement that COPUOS has a vital role to play in ensuring that outer space continues to be used for peaceful purposes, through its work in the scientific, technical and legal fields, and the Committee's role in this respect should be strengthened.

As concerns strengthening of international cooperation, the Committee has both a direct and a catalytic role to play. Its direct role concerns work on development of international space law and encouraging adherence of Member States to the relevant treaties. COPUOS also plays a major role in increasing international cooperation through, inter alia, its work in the scientific and technical fields. Through promoting a better understanding of the scientific and technical aspects of the problem of space debris, the Committee can help strengthen international cooperation. Increased transparency and exchange of information on the global space environment would help considerably in this endeavour.

The declaration on outer space benefits, recently adopted by the General Assembly, is another example of the success of the Committee's work in developing consensus at the international level on cooperation in the use of outer space. The Programme on Space

Applications has promoted the peaceful uses of outer space, in particular for the benefit of the developing countries. The Programme has triggered greater international cooperation in this field.

Exchange of information through the work of the Committee, and among its members and affiliated international organizations, plays an important indirect role in strengthening activities in the field of international cooperation. The results can be seen in the form of joint missions, sharing of scientific data, and training and educational activities. All of these demonstrate the importance accorded to maintaining outer space for peaceful purposes.

The Committee can make a major contribution in this important field. It should continue to focus and enhance efforts on, firstly, maintaining a clean space environment; secondly, on continuing to develop and encourage a legal framework for effective coordination among States, taking into account new developments and applications in the peaceful uses of outer space; and lastly, on promoting greater cooperation among and between States.

The CHAIRMAN: The next speaker on my list is the distinguished representative of Indonesia.

Mr. H. WIRYOSUMARTO (Indonesia): My delegation is pleased to note that in resolution 51/123, paragraph 35, the General Assembly requested the Committee to continue to consider ways and means of maintaining outer space for peaceful purposes on a priority basis. This emphasizes the strong commitment of the international community, as well as a firm intention to strengthen international cooperation in the peaceful uses of outer space.

My delegation reiterates its position that, in order to ensure the peaceful uses of outer space, COPUOS must explore the possibility of establishing a coordinating relationship with the Conference on Disarmament. Such a relationship is vital for the exchange of information between these two bodies. Indonesia believes that the Committee would be better placed to conduct its deliberations on this subject if it were kept fully informed on developments in the Conference on Disarmament.

Through the work of the Legal Subcommittee, my delegation is of the view that the Committee should continue to explore and develop an international instrument aimed at strengthening international law in outer space. This would help to ensure the peaceful uses of outer space for the benefit of mankind.

The CHAIRMAN: Are there any other delegations wishing to speak under this item now, or later? I see none. We have therefore concluded our consideration of agenda item 6.

Report of the Scientific and Technical Subcommittee on the work of its thirty-fourth session (cont.)

Implementation of the Recommendations of UNISPACE 82, as well as Preparations by the Preparatory Committee for the United Nations Third UNISPACE Conference (cont.)

The CHAIRMAN: We will now continue our discussion on agenda items 7 and 9. Before doing so, I would like to give the floor to the Director of the Office for Outer Space Affairs, who will make a brief statement on UNISPACE III.

Mr. N. JASENTULIYANA (Director, Office for Outer Space Affairs; Deputy Director-General, United Nations Office at Vienna): As the Preparatory Committee is now considering UNISPACE III, I felt it would be useful to give some additional information in this respect. This information will necessarily be reflected in the report of the Committee in order to proceed with the respective work over the coming months. We are planning for the Conference in good time, but in order to make the best possible preparations we need to take stock of certain more substantial items for inclusion in the report.

Firstly, I will briefly recall some of the items I mentioned in my opening statement. The inter-agency meeting which took place last week was attended by representatives of United Nations bodies, regional commissions and specialized agencies, including all those who are involved in space activities. The meeting reviewed the work of UNISPACE III, as recommended by the Advisory Committee; we invited them to participate and they have agreed to do so. They will discuss and review all the details at headquarters, and following this meeting of the Preparatory Committee, it is our intention to formally invite these agencies, international organizations, and non-governmental organizations involved in activities in space and its applications to participate in the preparatory phase of the Conference.

As concerns non-governmental organizations, those we have in mind are the ones having observer status in the Committee. The same applies to intergovernmental organizations; there may however be a few of them who are not observers in the Committee but who are nevertheless involved in space activities. We will be

asking them for their suggestions as to exactly how they would like to participate.

As discussed at the inter-agency meeting, there are several areas where such participation could be of assistance. One is the question of background papers detailing the work carried out by each particular organization. They might also help the Secretariat to prepare background papers for the Conference itself. Participation in the workshops which will form part of the Conference is yet another area of possible assistance, as well as participation in the exhibit which we will have at the Conference. Immediately following this meeting, the Secretariat intends to issue these invitations and we will extract the salient points from the replies received.

At the next meeting of the Advisory Committee we will propose a suggested format for the Conference, and will bring to its attention the proposals put forward by those organizations for both the preparatory phase and the Conference itself.

I would draw your attention to the recommendations of the inter-agency meeting. It was felt that an overall theme should be selected for UNISPACE III, as this would give a focus to the exhibition as well as to the papers to be presented. The Advisory Committee had prepared objectives and a detailed agenda but had not selected a suitable theme. A suggestion put forward by the inter-agency meeting was "Space benefits for humanity in the twenty-first century". This suggestion emanated from their reading of what the Advisory Committee had agreed in the provisional agenda, and I would like to draw this to the attention of all delegations for further consideration.

The inter-agency meeting agreed that two specific aspects could be emphasized in the agenda of the Conference. The first is enhancing the use of space-based information and communications technology in order to strengthen the operational global observing systems, as it was felt important that these should become more effective in the twenty-first century. The second is already addressed to an extent in the agenda: the wider use of space technologies in the prevention and mitigation of the effects of natural and technological disasters. Special emphasis should be placed on this equally important area.

Mr. Abiodun and myself have already briefed you on the regional preparatory meetings which are foreseen. We hope to hold one in each region — Africa, Asia, Latin America — and we are waiting for governments to respond as concerns hosting these conferences. With the agreement of GRULAC, the Government of Chile has proposed that the regional conference for the Latin American region should be held in Chile. Mention has been made of the Asian conference being held in Malaysia, but we are still awaiting further information, and likewise for the African region. These regional conferences will take place in 1998 and 1999, prior to UNISPACE III, and recommendations made by them will be incorporated in the draft report of the Conference.

The regional preparatory conferences will be focused around the agenda of the Conference, and will follow the standard United Nations format for such conferences. In preparing background papers, you have before you document A/AC.105/1997/CRP.4; we have taken the agenda as a base and suggested a dozen or so background papers which could be prepared for the Conference. In addition, international organizations may wish to submit background papers and this subject will be mentioned when these organizations are contacted.

I already mentioned in my statement that the financial aspects relating to the Conference will be kept within existing constraints as far as is possible. At this point in time, this poses no major problem, provided the budget for the Committee in the next biennium remains the same as in the current biennium. I also told you that the Conference will be held in the Austria Center, but we will use the facilities of the VIC to the greatest extent possible in order to minimize costs.

As concerns the space exhibition, this will be held in the new exhibition hall due to open shortly before the Conference is scheduled to take place. That hall will have a gross exhibition space of some 7,000 m^2, including the working areas, corridors, etc., and the actual exhibition area should amount to some 5,000 m^2. The IAF Congress recently held in Beijing had an exhibition area of around 5,000 m^2, and thus the same kind of format is envisaged. In addition, we can always offer small exhibitions in the corridor areas in the VIC. The new exhibition hall will be on two levels, with a direct entrance to the VIC.

The Government of Austria is not responsible for any costs in connection with a commercial exhibition; therefore, it will be organized on a purely commercial basis. The Austrian Government traditionally covers certain expenses of non-commercial exhibitions, and we are at present negotiating possibilities in this respect with the Austria Center.

For information purposes, the large exhibits can range from 60 to 100 m^2, small exhibits can be some 10 m^2, and the average exhibits use some 20 m^2.

Turning now to areas which I have not yet touched upon but which merit our attention, the first is the preparation of the draft report of the Conference. As is usual practice for United Nations conferences, the Secretariat will prepare the draft report. We cannot formally make a start on this until the General Assembly adopts the resolution on UNISPACE III at its next session this autumn, and we therefore have to work within this constraint. That being understood, we would suggest a two-stage procedure: the first is that immediately following this meeting, we will contact the Member States of COPUOS and ask for their ideas on what should be included in the draft report of the Conference; and after the resolution is adopted, we can broaden the scope to include all United Nations Member States.

States would be asked to submit their comments by, say, November/December this year; we wish to ensure that all countries have sufficient time in which to formulate their contributions. The Secretariat would then prepare elements for inclusion in the draft report, to be considered by the Advisory Committee in February 1998. We plan to include as much as input as possible from Member States, and it would be particularly helpful if all States could forward their input by the deadline just mentioned. Ideas put forward by international organizations would also be included.

By February 1998, the Advisory Committee would also have before it a summary of submissions by all Member States of COPUOS, so that the draft report could be discussed in greater depth and ideas could be put forward.

Once the resolution has been adopted by the General Assembly (which should be in November/ December this year), the Secretariat would send a letter to all other States not members of COPUOS requesting their views, but setting them a deadline to forward those views of, say, April 1998. This means that at its February meeting, the Advisory Committee could examine the input from Member States of COPUOS and put forward some ideas for inclusion in the draft report. On the basis of that input, the Secretariat would then prepare the first draft of the full text of the report, and by that time we would be in a position to take into account any ideas put forward by other States not members of COPUOS. The first draft of the full report would therefore be available for the Preparatory Committee at its meeting in June 1998.

The Preparatory Committee would give detailed consideration to the draft report and formulate some ideas and suggestions. The draft report would then be extensively revised by the Secretariat, in the format proposed by the Preparatory Committee, by the end of 1998. This report would then be circulated to Member States in good time before the meeting of the Advisory Committee in 1999. At its meeting in February 1999, the Advisory Committee would be in a position to negotiate the final text of the report. In 1999, we will have an opportunity at the brief meeting of COPUOS prior to UNISPACE III to make any last-minute changes to the report before it is submitted to the Conference.

This is the process which the Secretariat foresees; we will however have to take into account certain technical difficulties which may arise, but if the Committee is agreeable to this workplan, it can be reflected in the Preparatory Committee's report this year.

National papers will also be put forward, which will review the work of the national space programmes and individual ideas contained therein. They will be submitted direct to the Conference by Member States and the Secretariat will set deadlines in due course for submission of a short extract (one or two pages), which the Secretariat will then have translated into all the official United Nations languages and circulated at the Conference. The national papers themselves will be circulated in their original language only.

I have outlined the format for the background papers, national papers and the draft report. As concerns the schedule of meetings, it has already been agreed that the meetings scheduled for 1999 should not exceed 16 days. As indicated in the meetings schedule recommended by the Advisory Committee, the Scientific and Technical Subcommittee will meet for a total of eight days. This period will be a crucial one, where much of the work concerning the report will be finalized. The Legal Subcommittee will meet for five days; the advantage being that the two meetings of the Subcommittee will be scheduled back-to-back in February/March. This means that should further negotiations be necessary in the Advisory Committee, there is an opportunity to use some of the Legal Subcommittee's time for this purpose. I am quite confident that this will allow us sufficient time to deal with the report.

A maximum of three days remains in 1999 for a short meeting of COPUOS prior to the Conference, which will review, finalize and adopt the reports of the two Subcommittees and finalize the draft report for the Conference. The exact schedule for 1999 as agreed in the Scientific and Technical Subcommittee will not be confirmed until 1998, and in particular it has still to be decided whether the short session of COPUOS should be

immediately prior to the Conference or at some other point. A decision on this will be taken next year in light of the progress achieved during next year's meeting of the Preparatory Committee.

UNISPACE III will take place from 19 to 30 July 1999. The substantive work of the Conference will be conducted by two or three committees. The functions of these bodies are set out in document A/AC.105/662, paragraphs 45-48. In view of the limited resources available, only two bodies will meet at any given time. Therefore, if we have a maximum of a plenary meeting and three subsidiary committees, out of this total of four only two can meet at the same time. No other meetings will be held during the opening and closing plenary meetings of the Conference.

The indicative schedule is as follows. Day one to day three will be plenary meetings of the Conference, with the adoption of the agenda, establishment of committees or working groups, general statements, etc. The committees will meet from day one to day nine, as will the Working Group of the Whole, as necessary. The last two days will be reserved for the plenary meetings and adoption of the report.

At the 1998 meeting of the Advisory Committee, it may be necessary to formalize a more detailed schedule for the Conference, and once so instructed the Secretariat will be able to propose a more definitive format for this schedule.

If delegations have any further question, I will be happy to answer them. In the meantime I hope that all delegates will give some thought to what I have just outlined so that the Secretariat has as much input as possible for the preparatory work for the Conference.

The CHAIRMAN: Thank you for your very useful outline of the preparatory work to be undertaken leading up to UNISPACE III. Before proceeding with our discussion of agenda items 7 and 9, I would like to ask if there are any delegations wishing to seek further clarification on this important issue. I give the floor to the distinguished representative of Ecuador.

Mr. L. ARIZAGA (Ecuador) *(interpretation from Spanish)*: Firstly, I would like to thank Dr. Jasentuliyana for his introductory statement. I think he has given us a very comprehensive presentation, covering the full range of subjects to be addressed by the Conference.

I would like some additional clarification on certain points. Document A/AC.105/1997/CRP.4, which has been circulated today, refers to the background documentation to be prepared by the Secretariat for the Conference. My delegation has studied this document and agrees with the list of topics set out in this document. However, we would like some clarification as concerns the subject of international cooperation.

In the discussions which took place in the Scientific and Technical Subcommittee, we identified what will be agenda item 7 of the Conference, "Promotion of international cooperation". In the explanatory remarks it is stated that within the context of UNISPACE III, consideration of existing mechanisms would take place, as well as consideration of new mechanisms for international cooperation in space-related activities, and the study of ways and means to intensify coordination and cooperation between Member States of the United Nations system. Another topic mentioned is of particular relevance in terms of the Group of 77: the current status of outer space law and how the Conference could help in promoting the treaties and principles relating to outer space.

My delegation would like to know why international cooperation has not been included as a separate topic. We have read the explanation, which states that international cooperation will be mentioned under each individual item, but we think it advisable to have a separate item on this subject in view of its undeniable relevance for all States.

Secondly, my delegation would like to know what procedure will be followed concerning information sent out to Member States. We understand that in the first instance, members of COPUOS will receive an invitation to submit contributions, followed at a later stage by the same invitation to States not members of COPUOS. My delegation therefore wonders whether it would not be more straightforward to send all the invitations at the same time so that comprehensive data can be forwarded to the Secretariat in good time for its inclusion in the draft report.

We appreciate that certain difficulties arise because the General Assembly has yet to formally adopt the resolution concerning UNISPACE III. Therefore an explanation could perhaps be given to States not members of COPUOS to this effect. If we follow the format just proposed, the Secretariat will have to prepare a document on the basis of information received from, firstly, members of COPUOS; secondly, from non-members of the Committee; and then thirdly, other organizations involved in the preparatory phase. This would seem to be generating additional work which could be avoided, and my delegation feels it would be

easier to issue invitations simultaneously to all States and organizations involved.

Finally, my delegation had understood that there would be two, and not three, committees meeting during UNISPACE III. The Scientific and Technical Subcommittee had decided there would be a plenary meeting and two additional committees, and no more than two meetings at any given time. We have no objection to a third committee if necessary, but we would like further information on what the mandate of that committee would be.

These are our initial queries on the Conference. My delegation would like to thank Dr. Jasentuliyana for his comprehensive explanatory comments.

The CHAIRMAN: I now give the floor to the distinguished representative of Brazil.

Mr. S. CALDAS MERCADOR (Brazil): My delegation would like to thank Dr. Jasentuliyana for his clarification on the preparations for UNISPACE III. Brazil looks forward to playing an active role in the preparatory phase for the Conference.

Concerning the invitation to all United Nations Member States, Brazil feels that all countries from the Latin American and Caribbean region should be invited. As we also have a special affinity with five Portuguese-speaking African countries, we would emphasize the need to invite them also, although not all of them are members of COPUOS.

The number of committees to meet during UNISPACE III is going to be either two or three. My delegation would like to know if the Committee of the Whole is included in this figure. We would also like to know exactly when the Advisory Committee will begin its work, as we did not quite grasp the exact time-table referred to.

The CHAIRMAN: My understanding was that, as far as invitations to Member States are concerned, all members of the United Nations will be invited. However, due to the technical problem which arises from the General Assembly not having formally adopted the resolution, these invitations would be sent out in two phases, as outlined by Dr. Jasentuliyana.

Are there any further queries from delegations? There appear to be none: Dr. Jasentuliyana has obviously been extremely lucid in his statement! I will now give him the floor to answer those questions from the distinguished representatives of Ecuador and Brazil.

Mr. N. JASENTULIYANA (Director, Office for Outer Space Affairs; Deputy Director-General, United Nations Office at Vienna): On the question of background papers, the Secretariat has given this matter much consideration. Our conclusions were that we would not be able to prepare the necessary papers without taking account of two important aspects of the agenda. These are economic and social benefits, and the interrelationship between this subject and international cooperation.

It was on this basis that the Secretariat felt these two important issues — economic and social benefits, and international cooperation — should be addressed in each individual paper. However, what we decided is not definitive, and therefore if necessary we can introduce a separate paper which addresses them specifically. I am not concerned if we maintain the ten papers listed in document A/AC.105/1997/CRP.4, because note 2 of that document refers to a review of the work of the international organizations, which basically means international cooperation, and this will be contained in a separate document.

The same applies to the question of space law: what is contained in the agenda is a review of the status of space law, which the Secretariat felt would be better addressed in the review document. Other-wise some duplication might take place, as that document already covers the review. The revision of the document entitled "Space activities of the United Nations and international organizations" does in fact deal with international cooperation, and contains a substantial section on space law. The Secretariat is open to any suggestions you may have, but I hope this is a suitable explanation, and I can assure delegates that we have paid particular attention to both international cooperation and economic and social benefits. It was thus to enhance their importance that we felt they should be addressed under each individual item.

In reply to the question of the distinguished representative of Brazil, I would like to clarify that the Conference is open to all Member States of the United Nations. When you referred to the inclusion of all countries in the Latin American and Caribbean region, I am not sure whether you were referring to the regional conference — if so, if there is a special request that the Portuguese-speaking African countries, or any other countries, should specifically be invited to that meeting, we are open to that proposal. But the regional conferences are meant for the individual regions.

I mentioned the technical difficulty which arises as concerns inviting States to forward their inputs. The Secretariat's thoughts were that members of COPUOS are

already conversant with the subject areas and have a considerable amount of information already available. Thus they could respond quickly, and if their input was received by November, the Secretariat would be able to make a start on putting together the detailed elements for consideration by the Advisory Committee. However, when preparing the full report, we would by this stage have the benefit of input from all States in time for the meeting of the Preparatory Committee.

If the Committee so wishes, the Secretariat can investigate the possibility of inviting all Member States simultaneously. A reference would be included to say that it would be subject to approval by the General Assembly, but if the Committee so wishes, the Secretariat can modify its arrangements accordingly.

The final question relates to the timing of the meeting of the Advisory Committee. This Committee will meet in full session in 1998. As well as the agenda items of the Scientific and Technical Subcommittee, in its capacity as Advisory Committee it will have before it the item on UNISPACE III on its agenda. At that point in time it will be vital to consider a more definite schedule for the Conference, as well as the specific elements for inclusion in the draft report.

In February 1999, the Advisory Committee will consider the revised draft report for the Conference. It will therefore have two opportunities to examine the draft report, and the Preparatory Committee will have one full opportunity (in 1998), and one brief final look at the report at its 1999 session. I hope this is clear.

The CHAIRMAN: I now give the floor to the distinguished representative of Germany.

Mr. G. FULDA (Germany): My delegation would like further clarification on three points. The first is the sequence of meetings; the second is the series of background papers; and finally, as con-cerns those committees which will meet during the Conference.

With respect to the sequence of meetings, Dr. Jasentuliyana mentioned that COPUOS may meet immediately before UNISPACE III. Is it the unanimous opinion of the Committee that that COPUOS meeting held directly prior to the Conference would replace the ordinary meeting, or does anyone feel that there should be a separate meeting of COPUOS in 1999?

As far as the background papers are concerned, the note prepared by the Secretariat is comprehensive and all the issues mentioned are very relevant to the discussions during the Conference. However, the ten items listed do not correspond to the number of substantive items which we have on the agenda of the Conference. My delegation therefore wonders whether this might give rise to some misunderstanding: this list could be interpreted as being a second agenda, when in fact many of the items listed do not correspond to substantive agenda items. Perhaps these background papers should be focused on the substantive agenda items which have been agreed.

Finally, as concerns the number of committees meeting during UNISPACE III, could the Secretariat confirm what we have discussed, i.e. there would be a maximum of three meetings in parallel. Therefore the question of having two or three committees could be decided upon without any pressure and with no additional budgetary implications.

The CHAIRMAN: I would now like to ask Dr. Jasentuliyana to respond to these questions.

Mr. N. JASENTULIYANA (Director, Office for Outer Space Affairs; Deputy Director-General, United Nations Office at Vienna): I will take the last question first. Originally we had proposed two or three substantive committees to meet during the Conference. The Secretariat will put forward a proposal on this to the Advisory Committee for final agreement. For the time being, the understanding is that only two committees will meet in parallel — but there could be two, three or four committees convened, which will be clarified once the schedule is finalized.

With regard to the proposed meeting of COPUOS in 1999, what has been agreed upon so far is that there will be a short, three-day maximum meeting of COPUOS immediately prior to the Conference itself. To give you some background information, the Secretariat had suggested that the meeting of COPUOS might take place between the February/March meeting of the Advisory Committee and UNISPACE III itself, during June or July, in order to tie up any loose ends concerning the Conference. Based on my experience of previous Conferences, I felt this might prove to be the best solution. Member States suggested holding the meeting of COPUOS immediately prior to the Conference.

Therefore as things currently stand, it is foreseen that COPUOS will meet for two or three days immediately prior to UNISPACE III. There will not be an additional meeting of COPUOS in 1999.

Concerning the background papers and the agenda items, the Secretariat felt that the agenda as it currently stands would prove rather unwieldy if a report had to be

written on each item. There are overlaps and certain duplications in the agenda, which would be difficult to organize if background papers had to be aligned to these items. Therefore we have chosen the subjects for the background papers based on the salient points and topics contained in the agenda.

In previous years, it has been customary practice at United Nations conferences for background papers to be based on the agenda of the conference, although they may not follow the agenda items as such. The Secretariat carefully weighed up the different issues and decided that this thematic approach, covering all annotations given in the agenda, would be the best approach to adopt. There is no intention to introduce new topics not contained in the agenda; and it should be borne in mind that background papers are precisely that — background information, and not the Conference document. It is the draft report of the Conference which will follow the outline of the agenda.

If the Committee so wishes, the Secretariat is open to modifying the agenda. We would however not advise that at this stage.

Mr. L. ARIZAGA (Ecuador) *(interpretation from Spanish)*: My delegation would like to thank Dr. Jasentuliyana for the explanations he has just given us, which have helped to clarify the situation. He has mentioned that sending out information and invitations to all United Nations Member States would not raise any problem, with the proviso that all arrangements would be subject to the General Assembly's adoption of the resolution on UNISPACE III.

My delegation feels sure that States will submit their inputs, as the regional preparatory conferences will provide the momentum in this respect to all States. Therefore we support the notion of the Secretariat sending letters to all United Nations Member States at the same time.

We agree with the statement by the German delegation. In comparing other documentation ith document A/AC.105/1997/CRP.4, we too found it difficult to align this with the agenda adopted by the Scientific and Technical Subcommittee. That agenda was the result of lengthy negotiations and truly reflects a consensus of all views expressed in the Subcommittee. At that same meeting, two approaches to the issue of international cooperation were put forward in the context of UNISPACE III. One is reflected in document A/AC.105/1997/CRP.4, whereby it would be mentioned under each specific item. The second option was to have a separate agenda item specifically devoted to existing and new mechanisms for international cooperation.

The Group of 77, which I presided over myself, devoted a considerable amount of time to this subject. Therefore my delegation feels it is appropriate to have a document specifically addressing this issue.

If we have understood correctly, in 1998 we will be given the sequence of meetings of the Committee and its Subcommittees for 1999. The main reason for the holding of a three-day meeting of COPUOS prior to the Conference is that that meeting must approve the reports of both Subcommittees, in addition to its role as the Preparatory Committee for UNISPACE III.

The CHAIRMAN: I will ask Dr. Jasentuliyana to respond to those comments.

Mr. N. JASENTULIYANA (Director, Office for Outer Space Affairs; Deputy Director-General, United Nations Office at Vienna): It is quite possible to consider having a paper on item (b), which falls into three sub-topics: environment and natural resources, remote sensing; navigation ? ? ? ? ? and location; communications. Then we have item (c), on information needs and the global approach, which will be another paper; promotion of international cooperation will be another paper, and the last one will be economic and social benefits. This means the number of papers could be reduced from ten to six, and the Secretariat is certainly prepared to give some thought to the proposal that has been put forward.

The CHAIRMAN: I think discussion on this point is very timely, as all delegations have given much thought to UNISPACE III.

We will now continue with our discussion on the current agenda items. The first speaker on my list is the distinguished representative of the Russian Federation.

Mr. E. ZVEDRE (Russian Federation) *(interpretation from Russian)*: My delegation welcomes the progress achieved during the thirty-fourth session of the Scientific and Technical Subcommittee. Some thorough and intensive discussion took place, both in terms of the range of subjects discussed and the importance of decisions taken.

The Russian Federation attaches particular importance to the work of the Subcommittee on the three-year activity plan on the scientific and technical aspects of the problem of [technogenic pollution?] of

outer space. My delegation will make a separate statement on this subject in due course.

It goes without saying that the main outcome of the last session of the Subcommittee was the adoption of consensus decisions on matters relating to the convening of UNISPACE III, in particular its agenda. As a result of the work done in the Working Group of the Whole, under the leadership of Mr. Nasim Shah, a balanced agenda was agreed upon to include all aspects of international cooperation in outer space. These included the status, application and prospects for the development of space science and technology, the application of the benefits of space technology on Earth transport systems, remote sensing, commercial aspects, etc. Discussion centred on the key areas of activity in the peaceful uses of outer space in the next millennium, as well as ways and means of the practical resolution of the problems of applying space technology to help promote social and economic development.

Attention was also paid to international cooperation in the use of space and the current status of international space law. An excellent idea which was proposed was to hold an exhibition on space technology in parallel with the Conference, organized with the participation of all those concerned in the field of space, including the private sector. My delegation believes that this exhibition would arouse both interest and support in industrial circles, and would serve as an excellent public relations exercise for the promotion of space. We also support the decision that the Conference be held in the form of a special session of COPUOS. It should be held within existing budgetary limits, which means that the length of other sessions of COPUOS and its Subcommittees in 1999 would be shorter. My delegation is ready to pursue further discussions on organizational matters in order to produce the optimum and most acceptable decision.

Another important topic discussed was the use of nuclear power sources in outer space. My delegation has reported in detail to the Subcommittee on measures undertaken in Russia to ensure the safe use of such nuclear power sources. Within the framework of this programme, research was conducted on problems concerning possible collisions of nuclear power sources with space debris. A working document was presented on the problem of safety in connection with the use of nuclear power sources. Research has been carried out on the emission of primary coolant from reactors from space-based sources in the 700-1,000 km orbit spectrum, as well as my country's approach to the creation of safety systems.

My delegation also presented a report on collisions of nuclear power sources with space debris, containing results of research on the secondary coolant circuits of reactors of space-based sources as concerns collision with space debris, the process of possible formation of droplets of coolant, and an assessment of the likelihood of these actually taking place. Details were also given of the unsuccessful launch of Mars-96, with radio-isotopes on board, and full information on the safety of such energy sources based on Plutonium 238.

This year, work will be concluded on the dedicated federal programme of [ECOS .... ?], which will be financed from 1998 to 2001, and which provides for work on space-based sources to be carried out by the ministry of the Russian Federation in charge of atomic energy. Our thanks go to the United Kingdom delegation for presenting a new version of the working document on additions to the Principles Relevant to the Use of Nuclear Power Sources in Outer Space. Although my delegation continues to believe that at present the Principles which were adopted in 1992 do not require revision, we are ready to discuss the United Kingdom proposal with interested delegations and to share the concrete thinking of our specialists on this matter.

My delegation welcomes the Subcommittee's decision not to include the topic of the revision of the Principles on the agenda of the Legal Subcommittee at this point in time.

The statement just made has touched on some of the more problematic issues before the Scientific and Technical Subcommittee at its last session. There are, however, other issues which also merit attention. The exchange of information and views on space transport systems, space biology, and medicine were also of great interest. Discussion on the technical aspects of the use of the geostationary orbit demonstrated that this is an area where concerted action is needed from all space-faring nations. The seminar held under the aegis of the IAF and COSPAR was of great interest, and my delegation hopes that such events will continue to take place.

In conclusion, my delegation would like to reiterate that some very positive results were achieved at the thirty-fourth session of the Subcommittee, and call upon the Committee to approve all the decisions contained in its report.

The CHAIRMAN: The next speaker on my list is the distinguished representative of Japan.

Mr. H. AZUMA (Japan): My delegation also expresses its satisfaction with the work carried out by the

thirty-fourth session of the Scientific and Technical Subcommittee. The Subcommittee achieved significant progress in the multi-year workplan on space debris, as well as in preparations for the holding of UNISPACE III.

My delegation is pleased to note that the Subcommittee carried out its mandated task as Advisory Committee for the Conference through the adoption of the report of the Working Group of the Whole. We support the recommendations concerning the objectives, form, venue, date, participation, provisional agenda, financial aspects and additional components of the Conference. In particular, Japan welcomes the idea that UNISPACE III will address ways and means of resolving problems concerning the Earth and its environment through the promotion of international cooperation in Earth observation activities.

Japan agrees that every effort should be made to keep the cost of the Conference within existing resources available within the Committee by limiting the duration of sessions of COPUOS and its Subcommittees in 1999. Many delegations have already mentioned that the convening of the Conference represents an innovative approach which may serve as an example for future United Nations conferences.

My delegation supports the adoption of the report of the Scientific and Technical Subcommittee, including the report of the Working Group of the Whole. At its current session the Committee should carry out its mandated task as the Preparatory Committee in order to ensure that the outcome of UNISPACE III will be as constructive and positive as possible, in order to promote international cooperation in outer space.

The CHAIRMAN: I now give the floor to the distinguished representative of Argentina.

Mr. M. MACHADO (Argentina) *(interpretation from Spanish)*: Several delegations have already mentioned that this year marks the fortieth anniversary of the launch of Sputnik 1, and it was 20 years ago that Voyager was launched. The launching of Sputnik 1 was one of the most important events in space history in terms of space research, me delegation would like to recall some aspects of the Voyager launch.

The Voyager programme was designed in 1974, and in 1977 the first inter-planetary vehicle was launched. Now, some 20 years later, it is still operating on the outer limits of the solar system. This shows us that in the 1970s we were able to design, build and launch successfully one of the most outstanding in the history of space research. We must ask ourselves what has happened since that time and why it is that today, with all the quantum leaps which have been made in technology, we are unable to match this kind of achievement, except in very isolated cases.

Lack of resources is often put forward as an excuse. But my delegation believes that the lack of motivation, and of the pioneering spirit of adventure which characterized those early years, is the root cause. If we can rekindle that spirit and offset economic considerations by equitable international cooperation programmes, much could be done in the field of basic research in the area of space and its applications. A small example of this is the development of the Argentine Space Plan, whose achievements include the installation of a satellite aerial for Earth observation, with the assistance of the DLR of Germany. Further cooperation is foreseen in the SACC mission, which will be launched in 1999 with the participation of the United States, Brazil, Denmark, France and Spain.

In cooperation with NASA, a technological test satellite, SACC-A, is also foreseen and this will be put into orbit by the space shuttle next year. The space programme for Chagas' Disease is another example of my country's efforts, as well as projects associated with global climate change and a training programme for science and space applications. In all these activities, Argentina was not the only country involved. There is active cooperation with agencies of the United States (NASA and NOAA), CNES in France, DLR in Germany and the European Space Agency. In this way we hope to rekindle that spirit of adventure in the use of space and its applications.

The CHAIRMAN: We all hope that UNISPACE III will do precisely that: generate renewed interest in all aspects of space and its applications. The next speaker on my list is the distinguished representative of the Philippines.

Ms. M. PADUA (Philippines): As this is the first occasion my delegation has taken the floor at this meeting, we would like to congratulate the new Bureau on its election. My delegation has always advocated the principles of rotation and equitable geographical distribution, and it is our firm hope that the new Bureau will further enhance the work of the Committee.

Concerning agenda item 9, my country looks forward to the convening of UNISPACE III. We are convinced that the Conference will strengthen global cooperation on issues pertaining to the use of outer space for peaceful purposes. We also believe that

UNISPACE III should be supported by strong political will so that participants can involve the international community in sharing information and technological know-how. We support the views expressed by other delegations that the Conference should involve experts and organizations involved in the area of outer space.

In conclusion, we would like to express our appreciation for the work carried out by the United Nations Programme on Space Applications, as well as the hope that governments will continue to support it.

The CHAIRMAN: Thank you for your statement and for your kind words addressed to the Bureau. The next speaker on my list is the distinguished representative of Nigeria.

Mr. R. BOROFFICE (Nigeria): My delegation would like to congratulate the Expert on Space Applications, Dr. Abiodun, for his comprehensive report on the activities of the Programme on Space Applications.

Nigeria welcomes the results of deliberations at the thirty-fourth session of the Scientific and Technical Subcommittee. We believe that the preservation of the space environment for sustainable development requires collective effort from all involved. In this context, the issues of space debris and nuclear power sources in outer space are of major importance. The risk of space debris increasing in the future is very real, and therefore measures to mitigate this are needed on an urgent basis. My delegation is therefore pleased to note that the IADC carries out exchange of information on space debris research activities, and opportunities for international cooperation in this area should be promoted. We are also in favour of a working group being set up on nuclear power sources in order to reach a scientific basis for the revision of the relevant Principles.

My delegation has already informed the Committee of progress made in the establishment of the United Nations Centre for Anglophone African countries which is being hosted by Nigeria. We would like to take this opportunity to urge those anglophone African Member States of the Committee who have not yet responded to the CDA to do so as soon as possible. My Government also accords high priority to the COPINE project. A national seminar will be held during the third quarter of 1997, aimed at sensitizing both potential users and policy- and decision-makers on the benefits of this project.

We note from the report of the Expert on Space Applications that the final project document is ready for consideration by the Provisional Governing Board. This project is of vital importance to Africa as it will, to a great extent, allow participating countries access to the global information highway. My delegatin hopes that those developed countries who will be called upon to assist in the implementation of this project will make a firm commitment to this end.

Bearing in mind the work of the Programme on Space Applications, in particular its impact on developing countries, we join other speakers in urging all Member States to support this Programme so that it is able to continue to execute its projects.

The CHAIRMAN: The next speaker on my list is the distinguished representative of Greece.

Ms. H. MICHALOQOULOU (Greece): My delegation expresses its satisfaction with the work carried out during the thirty-fourth session of the Scientific and Technical Subcommittee, as contained in its report.

The Committee is aware that during that session of the Subcommittee, progress was achieved on the question of the establishment of a network of space science and technology education and research institutions for Central-Eastern and South-Eastern Europe. As the title indicates, their objective is perceived to be education and research activities on space applications projects. Delegations of interested countries — Bulgaria, Greece, Poland, Romania, Slovak Republic and Turkey — have agreed to proceed with the advancement of the project through a technical study mission to all countries involved. This mission will take place during the second half of 1997 under the auspices of the Office for Outer Space Affairs, and will define the framework and modalities of this project in terms of technical requirements, design, operation mechanism and funding.

The detailed terms of reference of this study have also been agreed upon, and the final phase of the preparatory work is now in progress. Various elements which will go towards the conclusion of a memorandum of understanding have been commonly agreed and will form the basis of the future structure and functioning of the network. My delegation would like to reaffirm Greece's intention, in its capacity as holder of the chairmanship of the steering committee of the network, to spare no efforts towards increasing the pace of action to be taken on both procedural and substantive issues concerning the creation of the network.

The CHAIRMAN: I have no more delegations wishing to speak on these two agenda items. As we have some time remaining, we will now begin our consideration of agenda item 8.

Report of the Legal Subcommittee

The CHAIRMAN: The first speaker on my list is the distinguished representative of the Czech Republic.

Mr. V. KOPAL (Czech Republic): In his first intervention on behalf of my delegation, my colleague Dr. Perek has already conveyed our warmest congratulations to the new members of the Bureau, and I would like to associate myself with these good wishes.

My delegation would like to make some comments on the report of the Legal Subcommittee as well as on its future work. Thirty-five years have passed since the establishment of both Subcommittees, which held their first sessions in Geneva in 1962. The purpose of their establishment was to study and report on the issues arising from the progress of space activities. From 1962 to date, both Subcommittees have fulfilled their tasks in this respect and have produced many valuable results.

The Legal Subcommittee was instrumental in negotiating and drafting all the United Nations space treaties and sets of principles by which the present international legal regime of space activities has been created. It is thus important to maintain this outstanding record, and continue to promote the progressive development of international space law in the United Nations.

Under one particular item on its agenda, namely "Methods relating to the definition and delimitation of outer space and to the utilization of the geostationary orbit", the Legal Subcommittee has been considering the legal aspects of aerospace objects, as well as replies of Member States to the questionnaire formulated by the working group in order to facilitate discussion on these somewhat complicated issues. The number of States which have so far replied to the questionnaire is somewhat low; the Secretariat has prepared a very useful document, entitled "Comprehensive analysis of the replies to the questionnaire on possible legal issues with regard to aerospace objects" (document A/AC.105/C.2/L.204), which has not yet received the response it deserves. My delegation feels that more Member States of COPUOS should reply to the questionnaire so that the above-mentioned analysis prepared by the Secretariat can be updated, thus enabling a more substantive discussion on this topic.

Under the same point of its agenda, for many years the Legal Subcommittee has been considering the issues relating to the character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the ITU. My delegation welcomes the active participation of the representative of the ITU in the consideration of this issue by the Subcommittee. For some time he has provided the Subcommittee with valuable information and advice on the technical aspects of this issue, as well as on the measures being taken by the ITU which offer practical solutions to the problems relating to this matter.

My delegation believes that substantial progress was achieved by the German delegation on this issue at the last session of the Subcommittee. They introduced a draft resolution, which included a request to the ITU and its Member States, entitled "Ensuring equitable access to the geostationary satellite orbit radiofrequency spectrum resources", which is contained in document A/AC.105/C.2/L.207/Rev.2). This initiative provided a reasonable measure to be adopted by the General Assembly on the eve of the World Radiocommunication Conference, which is expected to pave the way for further improvements in the implementation of its goals in ensuring the rational, economic and equitable utilization of the GSO. My delegation participated in the discussion on this draft resolution, and is ready to take part in further consultations on this document, possibly during the current session of the Committee.

Last year, COPUOS and its Legal Subcommittee were able to finalize the Declaration on International Cooperation in the Exploration and Use of Outer Space which was then adopted by the General Assembly in resolution 51/122, to which the text of the Declaration was annexed. The successful conclusion of an item which had been on the Subcommittee's agenda for many years came about through the spirit of mutual understanding and compromise of all members which took part in the discussion on it. It is now vital to intensify the informal discussions on new items to be included in the agenda of the Legal Subcommittee. A number of new items have already been put forward, and a list of these items has been included in the Subcommittee's reports. The Subcommittee was able to reach a consensus at its last meeting on the first such item to be included, on the basis of the working paper submitted by the Mexican delegation (document A/AC.105/C.2/L.206/Rev.1).

This document makes it clear that consideration of this item should aim at achieving the widest and fullest adherence to the treaties relating to outer space, and that

this initiative would not lead to the reopening of substantive debate on the treaties or any proposals for their revision or amendment. My delegation concurs with this approach; however, we believe that this consideration should not only lead to a renewed appeal addressed to all Members of the United Nations to ratify and/or accede to the treaties. In addition, the real reasons why a limited number of States which have adhered so far to the treaties should be explored in greater detail. Only on the basis of such an analysis can adequate measures be taken to achieve the widest adherence possible to these space law instruments.

The topics for possible inclusion on the agenda of the Legal Subcommittee also includes a number of other items. One such item — "Review of existing norms of international law applicable to space debris" — was proposed by my delegation and enjoyed the support of several other delegations. This proposal was accompanied by a background note in which we explained the purpose of the consideration of this proposed item, including some examples of the legal issues involved. It was made abundantly clear that consideration of these questions would not lead to the drafting of new provisions but would serve to clarify the issues involved and help to improve the interpretation and application of existing norms of international space law. My delegation believes that this method of considering the issue would be in harmony with the purpose and objective of the new item already adopted.

During the recent session of the Subcommittee my delegation reiterated its proposal, and suggested retaining the subject on the list of items for possible inclusion on the agenda of the Subcommittee in the future. We therefore appreciate that in the Chairman's package proposal, which has been adopted by the Committee by consensus, the review of existing norms of international law applicable to space debris was explicitly mentioned as one of the items to be given consideration for possible inclusion on the agenda of the Subcommittee. During our discussion this morning, appreciation was expressed for the progress achieved in the Scientific and Technical Subcommittee and its expert group, under the able guidance of its Chairman, Professor Dietrich Rex. This progress has been made possible by the workplan followed by these bodies.

My delegation shares in this appreciation of this progress and wishes the Scientific and Technical Subcommittee every success in fulfilling its task in accordance with the workplan. The report on space debris which was elaborated in the Scientific and Technical Subcommittee will form a valuable basis for the eventual consideration of the legal aspects of space debris in the Legal Subcommittee.

In conclusion, I would like to comment on a subject which formerly fell under consideration of agenda item 7: the report of the Scientific and Technical Subcommittee. As to its substance, my comment is also relevant from the legal point of view, which is why I would like to refer to it now in the context of our present discussion. As concerns the organization of UNISPACE III, my delegation welcomes the document prepared by the Scientific and Technical Subcommittee (document A/AC.105/672), which has established the promotion of international cooperation as well as economic and societal benefits as substantive items for discussion by the Conference. A review of the current status of the law of outer space, including ways and means of promoting wider adherence to the existing international space treaties and principles, has been explicitly mentioned. Workshops and/or seminars are also foreseen, one of them relating in particular to space law. My delegations feels that this is a positive direction in which to move ahead, as legal aspects form an inseparable part of both present and future issues relating to space activities. They were discussed at the first United Nations conference on outer space, held in Vienna in 1968, and UNISPACE III should continue the tradition.

The CHAIRMAN: Thank you for your detailed statement and for your kind words addressed to the Bureau. The next speaker on my list is the distinguished representative of Italy.

Ms. G. VENTURINI (Italy): The thirty-sixth session of the Legal Subcommittee made significant progress in agreeing on recommending a new agenda item entitled "Review of the status of the five international treaties governing outer space" should be included in its agenda, starting with its thirty-seventh session in 1998. This new item fully reflects the interests of all members of COPUOS, and the juridical expertise of the Legal Subcommittee will be positively exercised in examining the status of the legal disciplines, in whose elaboration it made a substantial contribution. On the thirtieth anniversary of the conclusion of the Outer Space Treaty, the Subcommittee was given new input to match the evolving changes in space affairs, and to give new responses in the field of space law.

As concerns the definition and delimitation of outer space and the character and utilization of the geostationary orbit, we would like to urge the Committee to consider that this item has been on the Subcommittee's agenda for many years, without producing substantive

results. My delegation believes that the ITU is the proper forum where matters related to the use of the geostationary orbit are dealt with. The working paper introduced by Germany at the last session of the Subcommittee requested the ITU and its Member States to intensify their efforts to ensure and improve equitable access to the geostationary satellite orbit. My delegation believes this document could provide an excellent means to conclude the consideration of this issue in the Subcommittee.

The CHAIRMAN: Are there any delegations wishing to speak on this agenda item, or on any other agenda items? I see none; I will therefore reluctantly adjourn this meeting of the Committee. Before doing so I would like to remind delegations about our schedule of work for tomorrow. We will continue our joint consideration of items 7 and 9, as well as of item 8. We may also begin our consideration of the remaining agenda items.

I understand that the Asian Group is meeting at 9.30 a.m. tomorrow in this room, and therefore our meeting will start at 10.30 a.m. tomorrow instead of 10 a.m. I now give the floor to the distinguished representative of Brazil.

Mr. S. CALDAS MERCADOR (Brazil): On a point of order, tomorrow at 2 p.m. the G.77 will be holding a meeting to discuss agenda items of the next IAEA Board of Governors meeting. If some provision could be made to start our afternoon plenary at 3.30 p.m., that would be greatly appreciated.

The CHAIRMAN: We will bear this in mind and take a decision at the end of tomorrow morning's meeting. The Committee is now adjourned until 10.30 a.m. tomorrow.

The sitting adjourned at 5.10 p.m.

United Nations COPUOS/T.438

Committee on the Peaceful Uses of Outer Space

Unedited transcript

438th Meeting
Thursday, 5 June 1997, 10.30 a.m.
Vienna

Chairman: Mr. RAO (India)

The meeting was called to order at 10.40 a.m.

The CHAIRMAN: I now declare open the 438th meeting of the Committee on the Peaceful Uses of Outer Space. This morning we will continue our joint consideration of items 7 and 9, "Report of the Scientific and Technical Subcommittee on the work of its thirty-fourth session", and "Implementation of the Recommendations of UNISPACE 82, as well as Preparations by the Preparatory Committee for the Third UNISPACE Conference". We will also continue our consideration of agenda item 8, "Report of the Legal Subcommittee". Time permitting, we may also begin our consideration of agenda item 10, "Spin-off Benefits of Space Technology", and agenda item 11, "Other matters". I would therefore remind all delegations wishing to speak on any of these agenda items to inscribe their names with the Secretariat as soon as possible.

We will follow the same pattern during this afternoon's meeting, when we will continue our joint consideration of agenda items 7 and 9, and agenda item 8. Before beginning our discussion on items 7 and 9 this morning, I would like to bring to the meeting's attention a request we have received from one non-governmental organization, the International Space University, for observer status with the Committee. The related correspondence and statutes of this organization were circulated at the thirty-fourth session of the Scientific and Technical Subcommittee for the information of Member States (document A/AC.105/C.1/1997/CRP.7). This document has been re-circulated by the Secretariat and can be found in delegations' pigeon holes.

Report of the Scientific and Technical Subcommittee on the work of its thirty-fourth session (cont.)

Implementation of the Recommendations of UNISPACE 82, as well as Preparations by the Preparatory Committee for the United Nations Third UNISPACE Conference (cont.)

The CHAIRMAN: The first speaker on my list is the distinguished representative of the Russian Federation.

Mr. E. ZVEDRE (Russian Federation) *(interpretation from Russian)*: My delegation would like to address one of the most important issues discussed at the thirty-fourth session of the Scientific and Technical Subcommittee, namely the problem of space debris.

The Russian Federation, which is actively involved in national research on the problem of technically generated pollution of near Earth space, attaches major importance to the work being carried out in the Subcommittee on the three-year plan in considering the scientific and technical aspects of this problem. Promising results were achieved at the Subcommittee's last session in discussions of issues relating to the second part of the special report on space debris: modelling of the space debris environment and evaluation of risks. There were also additions and corrections made to the first part, which was adopted in 1995 and is devoted to issues of observation, tracking, measurement and the cataloguing of space debris.

The results of these discussions are reflected in the annex to the Subcommittee's report. My delegation welcomes the active participation by most delegations in both the plenary meetings and in the context of the working group set up for that purpose. We would like to thank Member States of COPUOS for the inclusion in their delegations of specialists and professionals in the area of problems encountered in the field of man-made space pollution, which enabled the Subcommittee's work to be even more productive.

My delegation believes that the technical report on space debris, which should in future become the scientific and technical foundation for practical measures to deal with this very urgent problem, must be a comprehensive and practical document. Its development must therefore be accompanied by the use of as many specialists as possible from among Member States. Use should also be made of the expertise of specialized international agencies, such as the Inter-Agency Coordination Committee on Space Debris, which includes experts from nine of the major launching space agencies.

Given the tight time framework of the Subcommittee's session, to prepare the corresponding section of the report from scratch and then to reach agreement with all concerned delegations and take into account all suggestions and additions is not an easy task for the working group. Therefore, in order to proceed in a systematic way with the work on the report, my delegation believes that such work should be carried out during the inter-sessional period. Furthermore, due to new discoveries on this problem which continue to emerge, we feel that those parts of the report which are already complete should remain open to incorporation of any new results which come to light, and comments by specialists on the problem of man-made space pollution.

My delegation put forward proposals on this subject at the last session of the Subcommittee, and these are reflected in the Subcommittee's report. We believe it would nevertheless be useful to repeat these proposals here. In essence, we have suggested that the Chairman of the Subcommittee, Professor Rex, should be entrusted, during the inter-sessional period, with the task of developing and reaching agreement with Member States of COPUOS on the structure of the next part of the report, with the assistance of the Office for Outer Space Affairs. Following this, suggestions put forward by States should be circulated and incorporated in the draft report prepared by the Chairman himself. At least one month before the next session of the Subcommittee, the composite text should be sent to Member States for preliminary consideration.

My delegation believes that proceeding in this manner will allow the report to be more focused and informative, and will serve to address those issues not sufficiently covered by the report at present. For example, it does not sufficiently detail the role and significance of the two unique catalogues of space objects, namely the Russian and American catalogues, which are constantly being updated and are based on data from the only two systems of space control which currently exist. These are therefore of major importance with respect to all other catalogues and databases on space debris.

If we are to truly solve the problem of space debris, attention should also be drawn to the need for regular exchange of catalogues of space objects between the Russian and American space control systems. At present, in the context of the Russian/ American Commission on scientific and technical cooperation, which is co-chaired by the Russian Prime Minister [name] and United States Vice-President Al Gore, the contours of further bilateral coordination are being sketched out in terms of joint monitoring of near Earth space. The tracking of the entry of risk-bearing objects into the dense layers of the atmosphere is also being addressed. This will make it possible in the future to establish a global information field which is absolutely vital in order to ensure the safety of space activity under conditions of man-made space pollution. Recent results obtained by Russian scientists have shown that by using the potential offered by Russian and American space systems, it will be possible to reduce from 28 to 3 per year the number of manoeuvres by the future International Space Station to avoid catalogued space debris objects.

As concerns the possible consideration of the question of space debris by the Legal Subcommittee, my delegation continues to believe that any consideration of the legal aspects of the problem is premature and inadvisable, until such time as this issue has been fully discussed in the Scientific and Technical Subcommittee.

The CHAIRMAN: Thank you for your interesting statement on this important issue. I would like to inform the Committee that last month a new issue on space debris emerged from the General Space Forum. This contains many articles by leading experts and is most informative. I now give the floor to the distinguished representative of China.

Mr. PENG Yiqi (China) *(interpretation from Chinese)*: My delegation expresses its satisfaction with the results achieved at the last session of the Scientific and Technical Subcommittee.

During the past decade we have witnessed an increased demand for space technology. Since the holding of UNISPACE 82, many countries and relevant United Nations organizations have engaged in long-term activities for the peaceful uses of outer space, through the implementation of the Programme on Space Applications. My delegation greatly appreciates the accomplishments of these organizations in promoting this Programme. The Chinese Government has always

supported and actively participated in the implementation of the Programme.

Although China is not a rich country, it has made substantive contributions to the Programme on Space Applications in 1996. In October last year, the forty-seventh IAF Congress was held in Beijing; it was a large-scale event attended by over 2,000 participants from 54 countries. China not only successfully organized and arranged the Congress but also co-sponsored the workshop on education and awareness of space applications and technology in the developing world, in cooperation with the Office for Outer Space Affairs.

As a substantive contribution to the Programme, the Chinese Government bore the cost of 23 delegates from 19 developing countries. In 1996 China continued to provide seven one-year fellowships on remote sensing and GIS to countries of the Asia and Pacific region. Technical personnel from five countries received one-year training on remote sensing and GIS in [Wuhan?] Technical University on surveys and mapping. All the expenses were borne by the Chinese Government, who will continue to provide these fellowships in 1997.

As concerns the coordination of space activities within the United Nations system, my delegation supports the position held by the majority of the developing countries that it is necessary to ensure continuous and effective consultation and coordination in outer space activities. This will maximize the benefits of more efficient use of the limited resources available for outer space activities within the United Nations system.

With regard to remote sensing, as Earth observation is of increasing significance to the developing countries, my delegation endorses the view expressed in the report of the Scientific and Technical Subcommittee. Countries with satellite capabilities should provide remote sensing data and analytical information to the developing countries at reasonable cost and in a timely manner. In China, remote sensing, GIS and GPS technology and their applications have already been incorporated into our ninth national five-year plan for scientific and technical advance. Applications in such fields as resource and environmental monitoring, food production estimation, and disaster warning and monitoring are now underway. Studies are also being organized on aspects such as maritime environment remote sensing and radar applications.

The Chinese ground station for the remote sensing satellite was set up and put into operation ten years ago, and it has provided much data to its users in national economic sectors.

The ministerial conference on space applications for development in Asia and the Pacific, organized by ESCAP and held in September 1994 in Beijing, was a major international event on the subject of space applications. It was also a significant achievement in this field in our region. Since then, China has implemented the priority projects proposed by the Beijing Declaration and Programme of Action. A coordinating role has been played in the RESAP workshop on the application of meteorological satellites.

Tangible results have been achieved in the use of nuclear power sources in outer space, as was mentioned by the Chinese delegation during the last meeting of the Scientific and Technical Subcommittee. We favour restricted use of nuclear power sources in outer space, and endorse the position taken by the Subcommittee as concerns the two Conventions. My delegation believes that further studies should be carried out on this important issue, and is ready to cooperate with our counterparts in other countries.

My delegation is very interested in the discussions on space transportation systems. China is continuing to develop and improve the [Longmach?] series of launching vehicles. On 12 May 1997, [Longmach 3A?] successfully launched FDH 3 satellite. This satellite is one of the new generation of communication satellites; it has 24 transponders and has an operational expected life cycle of eight years. The satellite has now entered the geosynchronous orbit and this new meteorological satellite will be able to send information to China and its neighbouring countries free of charge.

My delegation supports the recommendation of the Scientific and Technical Subcommittee to include the issue of identification of scientific and technical aspects of the applications of space-based meteorology as a theme deserving special attention at its next session. As we have carried out many studies on this issue, China intends to make special presentations.

My delegation is particularly interested in the development of space science. On 20 October 1996 we launched a returnable technical experimental satellite, the seventeenth satellite launched by China. It conducted various experiments in the space environment, in areas such as crystal growth, crop seeds and medicine. The satellite returned successfully on 4 November. Cooperation with colleagues in other countries will continue in this field.

Space debris is a matter of increasing importance, and my delegation welcomes the discussion of this subject by the Subcommittee. Although space activities

carried out by China are on a modest scale and create only a very small proportion of debris, we nevertheless attach great importance to this issue. China has actively been seeking ways and means to reduce and manage space debris and have taken measures to reduce its generation.

Since UNISPACE 82 remarkable progress has been achieved in implementing the Programme on Space Applications and its various recommendations. The development of space technology and its applications is advancing rapidly, and international cooperation has also been intensified. My delegation endorses the work of the Scientific and Technical Subcommittee in preparation for UNISPACE III, in which we will participate actively. We hope this Conference will be a meeting of practical relevance with a specific, action-oriented mandate.

The CHAIRMAN: I now give the floor to the distinguished representative of Ecuador.

Mr. L. ARIZAGA (Ecuador) *(interpretation from Spanish)*: My delegation would like to thank Dr. Abiodun for the information he gave us yesterday on activities undertaken in the field of space applications. These activities are of great importance and benefit to the developing countries. Ecuador has submitted a report on the work carried out by the Centre for Integrated Surveys of Natural Resources by Remote Sensors (CLIRSEN) during the past year. This information is contained in document A/AC.105/661.

My delegation took an active part in the last session of the Scientific and Technical Subcommittee where, following intensive negotiations, agreement was reached on the objectives, form, venue, timing, participants, annotated provisional agenda, financial aspects and other issues relating to UNISPACE III. The progress made was due not only to the constructive approach of delegations which participated in those negotiations, but also to the documents prepared and assistance provided by the staff of the Office for Outer Space Affairs. We welcome the results obtained and believe that the recommendations made by the Advisory Committee should be endorsed by COPUOS.

Ecuador attaches great importance to the preparatory conference to be held in Latin America and the Caribbean before UNISPACE III takes place. My delegation has taken note of the offer by Chile to host this conference; Chile is a country which has always been actively involved in the area of space and its applications, and successfully organized the second Space Conference of the Americas in 1993.

In conclusion, my delegation would like to thank the Secretariat for document A/AC.105/1991/CRP.4, which contains information on background papers which the Secretariat will prepare and distribute during the first half of 1998. We would like to repeat that item 7(d) of the annotated provisional agenda should be borne in mind and a background paper should be prepared on that subject.

The CHAIRMAN: The next speaker on my list is the distinguished representative of France.

Mr. P. LOUET (France) *(interpretation from French)*: My delegation would like to join other speakers in thanking Dr. Abiodun for his interesting and detailed statement. We have taken due account of his message as concerns the Programme on Space Applications and will consider ways and means of strengthening the synergies between work on bilateral cooperation under way in France, and multilateral cooperation within the framework of budgetary constraints faced by all.

As concerns nuclear power sources in space, France favours expansion of the Principles adopted by the General Assembly in 1992 (resolution 47/6B). This can be achieved by adding new sections on possible fields of application, such as the use of nuclear power sources on the Moon; existing provisions should not be re-examined. My delegation would therefore like to see further examination of this item by the Subcommittee.

Space debris is the most important issue on the agenda of the Subcommittee. My delegation stressed in its statement on agenda item 5 that cooperation with the Inter-Agency Coordination Committee on Space Debris should make it possible to have a better understanding of the subject. When appropriate, further thought should be given to the respective roles of the IADC and the Subcommittee on the short- and medium-term evaluation of the problem of space debris.

As has already been stated by many delegations, the first being that of the Russian Federation, that before this question is put on the agenda of the Legal Subcommittee it is indispensable to have all the necessary technical data for a true appreciation of the scope of the problem.

Concerning preparations for UNISPACE III, my delegation would like to thank Dr. Jasentuliyana for his excellent presentation, which was both detailed and objective. Nearer the time certain other issues will need to be addressed, such as language, modalities, sending of invitations, and number and type of committees —

although discussion on this latter point will necessarily be limited due to budgetary constraints, as mentioned by Dr. Jasentuliyana.

My delegation believes that the Committee must continue to focus on the main purpose of the Conference. We must take stock of our knowledge in the area of space and its applications and educate both public opinion and those responsible for space activities on the importance of space applications for development.

This objective can only be fully realized within the perspective of cooperation, whose purpose and scope have already been well defined by the General Assembly when it adopted the resolution submitted to it on the spin-off benefits of space technologies. My delegation felt it was vital that this resolution be adopted before any commitment was made to UNISPACE III. It would be wrong to attempt to redo the work already carried out by COPUOS and the General Assembly, which has met with the satisfaction of all concerned.

Regarding the holding of regional conferences in preparation for UNISPACE III, my delegation does have some query, unless it has misunderstood what was decided at the last session of the Scientific and Technical Subcommittee. We have deliberately limited the scope of the Conference, and its costs: therefore, are three preparatory conferences really warranted? What would be their purpose? And above all, who will be paying for the cost of these conferences? My delegation feels that funds used for such preparatory conferences could be put to better use for UNISPACE III, as it is the Conference itself to which we should devote all possible efforts rather than fragmenting our resources.

In conclusion, my delegation is ready to participate constructively in all preparatory work for UNISPACE III.

The CHAIRMAN: The next speaker on my list is the distinguished representative of Romania.

Mr. M.-I. PISO (Romania): As my delegation has already mentioned, Romania is promoting the development of national, regional and global cooperation, not only for space applications themselves but also for research and education. The United Nations Programme on Space Applications states that an essential prerequisite to successful space develop-ment is the building of various indigenous capacities, particularly as concerns human resources, within each region.

In this context, Romania is committed to constantly promoting efforts towards capacity building, in particular as concerns the development of the recently established Network of Space Education and Research Institutions in Central-Eastern and South-Eastern Europe. The Expert on Space Applications and other delegations have already mentioned the technical study which is being developed in cooperation with the Office for Outer Space Affairs. This study will define the technical infrastructure and organizational structure of the Network, which should represent an integrated capacity-building generator to produce both experts on space and space projects.

The Network is open to all countries who express an interest in participating. It will contribute to the integration of national and regional space projects into the space programmes developed by the major space-faring organizations. At the continental level, the Network will complement the efforts of the Central and Eastern European countries to integrate into the European Space Agency system. It could thus be a significant factor in improving scientific and technical development, and the goodwill of the region as a whole.

The CHAIRMAN: I now give the floor to the distinguished representative of India.

Mr. M. NAIR (India): My delegation is pleased to note the progress achieved at the thirty-fourth session of the Scientific and Technical Subcommittee, which dealt with many important agenda items. The symposium organized jointly by COSPAR and the IAF on "Space systems for direct broadcasting and global information systems for space research" deserves a special tribute. The presentations and discussions were both high in quality and informative; my delegation welcomes the theme chosen for the next session of the Subcommittee and hopes that the same excellent quality will be maintained.

Extensive discussions took place at the last session of the Subcommittee concerning space debris, and in particular modelling of the space debris environment and risk assessment. Presentations made by various experts have complemented the contributions of Member States. Particular note should be taken of the major findings as regards long-term debris models, as discussed in the Subcommittee. Attention should be drawn in particular to one of the findings, namely that the debris population may grow uncontrolled in the future if space flight is carried out as in the past. This is because of the increasing number of collisions that will occur among larger objects.

Special attention must therefore be paid by all countries to achieving a rapid solution to this problem.

My delegation refers to the confirmed collision of two catalogued objects in orbit which were discussed and recorded in the Subcommittee's report. It is the collective responsibility of all of us to ensure that the space debris problem will not grow into menacing proportions, as many developing countries have great faith in the utilization of space for peaceful developmental purposes.

Turning to the subject of the implementation of the recommendations of UNISPACE 82 and the Programme on Space Applications, my delegation strongly supports the latter Programme, and the work carried out by Dr. Abiodun in its implementation. We express our full support for the activities proposed for the next year.

My delegation welcomes discussions in the Subcommittee concerning the holding of UNISPACE III. The decision that the Conference will take place at the United Nations Office in Vienna in July 1999, for a period of up to ten days, is a momentus decision following many years of detailed discussions. The focused agenda which has been prepared and the recommendations made concerning the form and organization of the Conference reflect the resolve of all delegations to hold a purposeful and useful Conference. The primary objective of the Conference is to promote the effective use of space technology to assist in solving problems of global or regional significance, and to strengthen the capabilities of Member States, in particular the developing countries, to use the applications of space research for economic, social and cultural development. The Conference deserves the full support of all Member States.

My delegation supports the work carried out by the Subcommittee as concerns UNISPACE III and its objectives. The mandate given by the General Assembly for COPUOS to serve as the Preparatory Committee, and for the Subcommittee to serve as the Advisory Committee, is a great responsibility. Full participation of all Member States is necessary, as well as international organizations, intergovernmental and non-governmental organizations and space industries. This is the objective foreseen in the agenda and organizational aspects agreed upon during the meeting of the Subcommittee.

The Committee should therefore endorse appropriate action by the Secretariat to inform and invite those international organizations and industries to undertake preparatory activities, and this should be encouraged and facilitated by Member States as well as by the Secretariat. The Committee should recommend that the General Assembly invite Member States to undertake and support the preparatory activities, including the submission of national papers, in line with the objectives and agenda of the Conference. The Secretariat should request Member States to submit their inputs in advance, in order to assist in preparing the preliminary draft report in time for the next session of the Subcommittee. This draft report could then be circulated among all United Nations Member States following its consideration by the Advisory Committee at its 1998 session.

COPUOS should recommend to the General Assembly that the Secretary-General invite all Member States, United Nations organizations, specialized agencies, intergovernmental organizations and relevant non-governmental organizations to undertake and contribute to preparatory activities. The goals and objectives of the Conference also need to be addressed in an appropriate manner.

My delegations welcomes the efforts of the Secretariat to assist in the planning process for the Conference, and the documents prepared in this connection. We also appreciate the detailed statement made by Dr. Jasentuliyana, which outlined the steps envisaged in the preparatory activities. A timetable and schedule of preparatory work should be prepared by the Secretariat on the basis of this statement. If feasible, this could be circulated before the end of the present session of the Committee and thus could be further developed and refined at the next session of the Advisory Committee.

My delegation shares the views of previous speakers on the significance of the objectives of UNISPACE III and the need for concerted efforts to ensure full participation of all Member States in achieving these objectives. We also endorse the report of the thirty-fourth session of the Scientific and Technical Subcommittee and welcome the outstanding efforts of its Chairman, Professor Rex, as well as Mr. Naseem Shah, who chaired the Working Group of the Whole.

The CHAIRMAN: The next speaker on my list is the distinguished representative of Malaysia.

Ms. M. OTHMAN (Malaysia): My delegation wishes to congratulate the Secretariat on the comprehensive report of the Scientific and Technical Subcommittee, which chronicles the progress achieved and shows clearly that much remains to be done. We are pleased that all agenda items have been retained for further discussion at the next session, in particular the issue of space debris and the use of nuclear power sources in outer space.

At the joint United Nations/ESA microwave remote sensing workshop held in the Philippines in 1996, Malaysia offered to host the third workshop in Kuala Lumpur in 1998. This offer was welcomed by the participants in the workshop and accepted on their behalf by the Office for Outer Space Affairs. In accordance with the wish of the Office for Outer Space Affairs to use space applications programmes as preparatory meetings for UNISPACE III, my delegation proposes to host the regional preparatory meeting for the Asia and Pacific region. The meeting, together with the microwave remote sensing workshop, will take place over five days, and the group of Asian countries which met this morning suggested it be held in April or May 1998.

Further consultations with the Office for Outer Space Affairs and member countries will be held to finalize the form and substance of the meeting, including the extent of involvement of international bodies such as ESCAP.

The CHAIRMAN: Are there any other delegations wishing to speak on agenda items 7 and 9 at this time? I see none. Before proceeding to discussion of the next agenda item, I will ask Dr. Jasentuliyana to respond to some of the queries raised during the statements we have heard.

Mr. N. JASENTULIYANA (Director, Office for Outer Space Affairs; Deputy Director-General, United Nations Office at Vienna): As concerns the questions raised by the distinguished representative of France on the regional preparatory conferences, I would like to recall the agreement reached at the last session of the Scientific and Technical Subcommittee. It was decided, after appropriate consultations, that regional meetings would be held in preparation for UNISPACE III. Several of them were specifically outlined in the Subcommittee, including the ones in Asia, Africa and Latin America and the Caribbean, as reflected in paragraph 34 of the report of the Subcommittee.

Previous practice has always been to hold such regional preparatory meetings, and it was on this basis that the Subcommittee took this decision. As concerns resources, it was understood that these would form part of the activities of the Programme on Space Applications for the 1998-1999 biennium. Therefore these meetings would be organized in the context of available resources for the Programme. The host countries will fund the major part of the conferences. I hope this clarifies this point.

Concerning the statement by the Indian delegation, the Secretariat would be happy to provide a tentative schedule to be distributed during the course of the present meeting. This could then be refined and discussed at the next session of the Advisory Committee in 1998.

The CHAIRMAN: I hope these clarifications have answered the queries which have been raised by delegations. We will now continue our consideration of agenda item 8.

Report of the Legal Subcommittee (cont.)

The CHAIRMAN: The first speaker on my list is the distinguished representative of Japan.

Mr. H. AZUMA (Japan): My delegation would like to express its support for the working paper submitted by Germany relating to the utilization of the geostationary orbit, as contained in Annex II of the report of the Subcommittee's thirty-sixth session. Japan agrees that the draft resolution, entitled "Request to the International Telecommunication Union: Ensuring equitable access to the geostationary orbit", should be submitted to the forthcoming fifty-second session of the General Assembly for adoption. It should also be taken into account that the forthcoming ITU World Radiocommunication Conference will take place in October-November 1997. My delegation concurs with the German proposal that the working group established under the relevant agenda item of the Subcommittee could be suspended.

My delegation would like to recall that, even on a referendum basis, a consensus agreement was reached during the informal drafting group at the last session of the Subcommittee regarding the German working paper. This proposed not the deletion of the agenda item concerning matters relating to the character and utilization of the geostationary orbit, but suspension of its discussion in the working group. This was the result of consultations among Member States in a spirit of compromise.

This being said, my delegation would urge other members of the Committee to agree to recommend the adoption of the German working paper to the General Assembly at its next session. My delegation believes this working paper is an important step towards revitalizing the work of the Subcommittee in the context of the new working methods of COPUOS.

The CHAIRMAN: The next speaker on my list is the distinguished representative of the United States.

Mr. J. KIM (United States of America): My delegation is pleased that deliberations during this year's session of the Legal Subcommittee led to the adoption of the Chairman's package proposal on the working methods of the Committee. The final package included consensus agreement on a new agenda item for the Subcommittee; both that and other components of the package, including duration of sessions, will help advance the objectives of this Committee in the years ahead.

As concerns the work of the Legal Subcommittee, my delegation hopes that the approach adopted by delegations this year reflects a new era in the Subcommittee. Delegations should continue to focus their efforts in areas which will make a useful contribution to accomplishing our important mandate. Open-ended debate on initiatives for which there is little interest or support should be avoided.

My delegation therefore welcomed the cooperation of all delegations in reaching agreement on inclusion of a new agenda item on "Review of the status of the five international treaties governing outer space". In particular we appreciate the initiative of the Mexican delegation in putting forward and developing this proposal. Consensus was reached on a detailed workplan that was well defined in scope, duration and objectives. My delegation supports the decision of the Subcommittee to recommend adoption of this item on its agenda.

As concerns further consultations on additional agenda items for the Subcommittee, my delegation has stressed on previous occasions that such discussions should take place in the Legal Subcommittee only. It would also seem appropriate that an item currently on its agenda be removed before an additional one is agreed. The Subcommittee has discussed inclusion of new agenda items for some time, and my delegation feels that certain other agenda items should be dropped before any new items are contemplated.

In this connection, several delegations have referred to the agenda item on the delimitation of space and the geostationary orbit. We join other delegations in thanking the German delegation for its initiative and hard work in preparing a draft resolution on the geostationary orbit for submission to the General Assembly. This resolution recognizes that the geostationary orbit is an integral part of outer space and acknowledges the role of the International Telecommunication Union in the access of States to orbital and frequency spectrums in the geostationary orbit. My delegation believes this resolution represents a fair means to bring about conclusion of discussion on this item in the Subcommittee, which has been debating it for nearly two decades.

My delegation therefore joins the delegation of Japan in urging other delegations to give further and favourable consideration to the draft German working paper.

In conclusion, my delegation looks forward to working with you, Mr. Chairman, and the other members of the Bureau of COPUOS in the years to come. With your leadership we have every hope of further advancing the peaceful uses of outer space.

The CHAIRMAN: I now give the floor to the distinguished representative of Mexico.

Mr. V. ARRIAGA (Mexico) *(interpretation from Spanish)*: My delegation welcomes the results of previous informal consultations held during the Legal Subcommittee concerning inclusion of the item proposed by the Mexican delegation. We appreciate the support received from those delegations who share the views expressed on this issue.

My delegation believes the item on the geostationary orbit should remain on the Subcommittee's agenda. The use and exploitation of the geostationary orbit can be looked at from various viewpoints within the United Nations system. COPUOS and the ITU should coordinate their activities and exchange information.

COPUOS was created, among other reasons, in order to analyse the legal problems which arise from the exploration and use of outer space. The Committee should analyse the legal aspects of the use and exploitation of the geostationary orbit with a view to producing general principles on this topic, taking into account the legal instruments which govern outer space. At present problems exist concerning equitable access and use, as well as coordination and reuse of the geostationary orbit, which the Subcommittee should address. Maintaining this item on the Subcommittee's agenda is therefore justified.

My delegation believes that at the Subcommittee's last meeting, useful discussions took place on the radiofrequency spectrum and the geostationary satellite orbit. The German delegation submitted a working document, which included a draft resolution containing some important points which deserve consideration by the Committee. Equitable access and efficient use of these resources are matters which have technical and legal dimensions, thus making it necessary for COPUOS

and the ITU to address them in a systematic and coordinated manner.

The draft resolution put forward by Germany identifies aspects relating to assignment, reassignment and [saturation?] of orbital positions. COPUOS must produce principles and formulas to ensure the best possible use of the potential of these resources. My delegation hopes that in the course of the deliberations on this item in the Committee, a solution will be found which will meet the concerns of all delegations.

The CHAIRMAN: The next speaker on my list is the distinguished representative of Greece.

Ms. H. MICHALOPOULOU (Greece): My delegation expresses its full support for the draft resolution submitted by the delegation of Germany during the last session of the Legal Subcommittee, in the form of a request to the ITU to ensure equitable access to the geostationary satellite orbit. Given that Greece has more than once presented proposals concerning the role of the ITU, and given also its contribution to the drafting of the relevant working paper, my delegation hopes to see this resolution endorsed by the present session of the Committee so that it may be submitted to the next session of the General Assembly for adoption. It could then be forwarded in good time to the World Radiocommunication Conference of the ITU this autumn, thus concluding or suspending consideration of this item by the Subcommittee.

Turning to the question of new items for the Subcommittee's agenda, my delegation would like to propose inclusion of the issue of conversion into a convention of the declarations of principles for direct broadcasting, as well as those for remote sensing, for possible future discussion.

With regard to the new agenda item "Review of the status of the five international treaties governing outer space", my delegation expresses its appreciation to the Mexican delegation's initiative, which led to its adoption. We would like to propose the establishment of a working group to analyse and evaluate the present situation, including examination of the possibility of starting a gradual codification of the rules of international space law.

The CHAIRMAN: The next speaker on my list is the distinguished representative of Colombia.

Ms. A. BONILLAN (Colombia) *(interpretation from Spanish)*: Since this is the first occasion upon which my delegation has taken the floor, I would like to congratulate the new members of the Bureau on their election. Colombia wishes you every success.

As concerns the geostationary orbit, as was stated by the Chairman of the Group of 77 at the opening meeting, and in accordance with the position adopted during inter-sessional consultations within the group, my delegation believes that new items should be added to the Subcommittee's agenda. The current items on the agenda should also be maintained, in particular that relating to the geostationary orbit.

A document was submitted by Colombia (A/AC.105/C.2/L.200), and we feel that discussions on this topic have not yet been exhausted: on the contrary, there should be further discussion. It is for the Legal Subcommittee to examine the normative and legal questions relating to the geostationary orbit, in particular the equitable access to frequencies and the geostationary orbit itself, bearing in mind the needs of the developing countries. My delegation believes that finalization of this item is premature; the proposals contained in document A/AC.105/C.2/L.207/Rev.2, submitted by the German delegation, should be studied in greater detail. So far this document has only been discussed at one session of the Subcommittee and no decision should be taken on so important a subject, not just for Colombia but for other equatorial countries, until further discussion has taken place.

In conclusion, my delegation believes that consideration of the geostationary orbit should be maintained not only on the agenda of the Legal Subcommittee but that such discussions should also provide the legal and normative basis for ITU to carry out its technical work on this important issue.

The CHAIRMAN: Thank you for your statement and for your kind words addressed to the members of the Bureau. The next speaker on my list is the distinguished representative of Ecuador.

Mr. S. MARTINEZ (Ecuador) *(interpretation from Spanish)*: The matters being discussed in the Legal Subcommittee have been and remain of great interest to Ecuador, and my delegation has the following comments to make thereon.

COPUOS has concluded a long and difficult phase of informal inter-sessional consultations concerning its working methods. This process has taken one year and meetings were held in both Vienna and New York. Along with other delegations, my delegation played an active role in and took a constructive approach to these consultations. The Chairman's package proposal

which resulted from these consultations was adopted by all Member States at the beginning of this meeting. This proposal contains interrelated elements, various points of view and includes three main topics: the composition of the Bureau, structure of the agenda, and duration of sessions of the Committee and its Subcommittees.

Reaching consensus was not an easy task, but it was nevertheless achieved. Throughout the consultations, my delegation emphasized the need to include new items on the agenda of the Subcommittee. It was then decided to include on its agenda the subject put forward by the Mexican delegation, "Review of the status of the five international treaties governing outer space". My delegation supported this proposal from the outset, and would point out that the package proposal does not recommend the suspension or elimination of any item on the agenda of the Subcommittee.

At the beginning of this meeting, the distinguished representative of Bolivia, who is the Chairman of GRULAC, pointed out that GRULAC was not in favour of the elimination of the agenda item concerning the geostationary orbit. To do so would run counter to the position adopted by GRULAC during the inter-sessional consultations, and this subject should continue to be analysed in the Committee itself. The distinguished representative of Brazil likewise pointed out that the Group of 77 feels this item should continue to be examined; no item should be removed from the Subcommittee's agenda until a substantive debate on it has taken place. My delegation concurs with these two points of view, and many other delegations have echoed this sentiment.

The issue of the geostationary orbit is of great interest to Ecuador because it is an equatorial State. My delegation believes that the slow pace of discussion on item 4 of the Subcommittee's agenda, "Matters relating to the definition and delimitation of outer space and to the character and utilization of the geostationary orbit, including consideration of ways and means to ensure the rational and equitable use of the geostationary orbit without prejudice to the role of the International Telecommunication Union", is due to the complexity of both questions. It should nevertheless be recognized that certain progress has been made and that some countries have modified their positions and moved closer to a consensus position.

Ecuador believes that consideration of the geostationary orbit should be dealt with jointly along with the definition and delimitation of outer space, not only because tradition is that these two subjects are considered jointly, but also because the subjects are intrinsically interlinked. Discussion of the non-delimitation of outer space can only prove advantageous to those who, by virtue of their technological resources, can make unrestricted use of outer space. Although those States who actually have access to outer space may be few, it is nevertheless necessary to define and delimit the area within which activities having legal, political and economic consequences can be carried out.

Outer space activities have increased considerably and become more complex, and thus the question of definition and delimitation is more important than ever. Activities which can be undertaken under the regime of the sovereignty of States need to be defined, as well as those falling under *res communis omnium* under an international regime. My delegation believes that the obstacles to this are political in nature rather than legal, and as such should be dealt with by those States concerned. A full analysis of the questionnaire on possible legal questions relating to aerospace objects should be undertaken under agenda item 4 of the Subcommittee — both those replies already received and those to be forwarded in due course.

There is some concern among the international community to protect the geostationary orbit from pollution due to the increasing amount of space debris abandoned in this limited natural resource; COPUOS must intensify its efforts in this direction. This work cannot be covered by ITU, whose scope of action is limited to technical aspects. The responsibility of States does not end with the useful life of satellites; the launching State maintains jurisdiction and control of all objects which are in outer space or other celestial bodies.

My delegation favours the establishment of a *sui generis* regime governing the access to and use of the geostationary orbit. Such a regime should take into account its legal aspects, its status as a limited natural resource, its particular technical characteristics, as well as the special geographical situation of the equatorial countries. This international status cannot merely be based on technological advantages on a "first come, first served" basis. It must also take into account the relative disadvantages of developing countries and the geographical situation of the equatorial countries.

This subject requires additional discussion, taking into account the various proposals submitted, and my delegation stresses the importance of maintaining the item on the geostationary orbit on the Subcommittee's agenda. Consideration of this item also falls within the competence of COPUOS and its subsidiary organs. We

are therefore unable to support its elimination or suspension from the Subcommittee's agenda.

As concerns the German proposal, "Ensuring equitable access to the geostationary satellite orbit in practice – Request to the International Telecommunication Union", my delegation considers that further discussions are necessary. There must be sufficient time to analyse this proposal and any agreement reached must take into account the views of all Member States. Any decision taken on so important a subject should not be taken hastily. We are ready to continue the dialogue with Germany in order to reach an agreement on this issue in the future. If necessary, the Subcommittee can continue to give this subject the necessary attention. The German proposal has certainly intensified the debate on this issue, and has demonstrated the interest accorded to it by countries from all regions.

The CHAIRMAN: The next speaker on my list is the distinguished representative of Malaysia.

Ms. M. OTHMAN (Malaysia): My delegation wishes to reiterate the position it took at the last session of the Legal Subcommittee: the working group should continue its consideration of the geostationary orbit. Certain unresolved issues still exist concerning the draft resolution, and thus further consultations are warranted. We welcome the Mexican proposal to review the status of the five international legal instruments governing outer space, with the objective of identifying reasons for non-ratification and with the aim of proposing mechanisms for achieving the fullest adherence to them.

Malaysia views with concern the report of a recent launch in April 1997 of a canister containing human remains into space on Pegasus XL. We urge members of COPUOS to discuss this matter in the appropriate forum to consider whether there should be limitations to such launches in future, and to carry out detailed scientific investigations into the full impact of such an activity. The findings of the study should be disseminated as widely as possible.

Space is the common heritage of mankind. While we are not averse to commercial activities in space, we should nevertheless endeavour to put in place meaningful mechanisms to monitor this kind of activity and to ensure the widest possible consultation and participation of all nations of the world.

The CHAIRMAN: I now give the floor to the distinguished representative of Brazil.

Mr. S. MERCADOR (Brazil): My delegation shares the views expressed by the delegation of Ecuador on the need to keep discussion of the geostationary orbit on the agenda of the Legal Subcommittee. Brazil has always supported retention of this subject on the Subcommittee's agenda, as well as due attention being given to it by the ITU.

General Assembly resolution 38/80 of 15 December 1983 states that the Legal Subcommittee of COPUOS is an appropriate forum for discussion of the recommendations of users of the geostationary orbit, together with the work carried out by the ITU.

The CHAIRMAN: Are there any other delegations wishing to speak on this agenda item at this time? I now give the floor to the distinguished representative of the International Telecommunication Union.

Mr. G. KOVACS (Observer, International Telecommunication Union (ITU)): I appreciate this opportunity to address the Committee and to make some observations on the role of the ITU and its legal framework concerning the management of the radio-frequency spectrum and orbit resources. This observation is made in relation to the work of the Legal Subcommittee of COPUOS, in particular as concerns its agenda item 4 on the utilization of the geostationary satellite orbit.

As stipulated in its Convention, the role of the ITU, as a specialized agency of the United Nations for telecommunications and in relation to space telecommunications, is to effect the allocation of frequency bands and the registration of satellite frequencies and associated orbit positions. It also coordinates efforts to eliminate harmful interference between radio stations of different countries and to improve the use made of the radio frequency spectrum and of the geostationary orbit. It harmonizes the development of telecommunication facilities, notably those using space techniques, and undertakes studies, makes regulations, adopts resolutions and formulates recommendations on space telecommunication matters.

The ITU Member States carry out the duties of frequency spectrum and orbit allocation, regulation and management through Plenipotentiary Conferences, World Radiocommunication Conferences, study groups of the radiocommunication sector and other organs of the Union. The main legal instruments of the Union in connection with these tasks are the Constitution and Convention of the ITU and the International Radio Regulations, which are international treaties binding on all Member States of the Union and in which the rights

and obligations of Member States concerning the usage of frequencies and orbit positions vis-à-vis other administrations are contained.

ITU's legal instruments are established by the above-mentioned Plenipotentiary and World Radiocommunication Conferences; their final acts are signed by duly authorized delegations and are further ratified by Member States of the Union. The ITU regulations thus constitute an independent legal regime. Nevertheless, being a specialized agency of the United Nations with an almost identical membership, the legal instruments established within the ITU are not contradictory to those of the United Nations or any other international agencies. In fact the major principles contained in the ITU regulations take account of those embedded in various United Nations declarations and treaties.

The most important United Nations treaty, which was taken as a basis for the space-related regulations of the ITU, is the Outer Space Treaty of 1967. This stipulates that outer space shall be used for the benefit and in the interest of all countries, and is not subject to national appropriation by claim or by occupation but is free for exploration and use by all States in conformity with international regulations.

Similar substantive principles are also laid down in the ITU Convention and Constitution and the Radio Regulations — namely the principles of efficient use and equitable access contained in Article 44 of the ITU Constitution. This provision stipulates that radio frequencies and the geostationary orbit are limited natural resources which must be used rationally, efficiently and economically in conformity with the provisions of the Radio Regulations. In this way countries or groups of countries may have equitable access to both, taking into account the special needs of the developing countries and the geographical situation of particular countries. Another important principle appears in the same Article of the Constitution, according to which Member States shall endeavour to limit the number of frequencies and the spectrum used to the minimum essential to provide, in a satisfactory manner, the necessary services.

Progressive exploitation of the orbit/frequency resources and the resulting likelihood of congestion of the geostationary satellite orbit have resulted in the creation of frequency/orbital position plans, in which a certain amount of frequency spectrum is set aside for future use by all countries, particularly those not yet in a position to make use of such resources. These plans — established mainly in response to the needs and requirements of the developing countries, and in which each country has a predetermined orbital position associated with the free use at any time of a certain amount of frequency spectrum — guarantee equitable access for each country to the spectrum/orbit resources.

Two such plans have already been established by the ITU; the so-called Allotment Plan for the fixed satellite service using parts of the 4/6 and 10/13 GHz frequency bands, and the Assignment Plan for the broadcasting satellite service in the 12 and 18 GHz bands.

With the dramatic development of telecommunications services, increasing demand for spectrum/orbit usage for practically all space communication services has been observed. The increase is attributable to many factors and includes not only technological progress but also to political, social and structural changes. Such developments in the area of telecommunications include the end of public service monopolies, the liberalization and globalization of the telecommunications sector, the introduction of non-GSO satellite systems for commercial communications, and growing market orientation. These developments led the last Plenipotentiary Conference of the ITU (Kyoto, 1994) to call for a new in-depth review of the ITU spectrum/orbit resource allocation procedures.

This review has now been completed. It shows that measures are needed to keep the ITU procedures relevant in the rapidly changing telecommunication environment. Several specific recommendations have been formulated with a view to their implementation by the forthcoming World Radiocommunication Conference, which will take place in Geneva from 27 October to 21 November 1997. The most important measures recommended are as follows.

Firstly, the introduction of "due diligence" procedures to ensure linkage between ITU procedures and commitments to implement real satellites and eliminate the so-called paper satellites. Second, simplification of the coordination procedures and the planning process concerning the allocation of orbit and spectrum resources. Third, the gradual introduction of international measures for monitoring operational satellites and, lastly, further measures to reinforce the equitable access to and efficient use of the orbit and spectrum resources. The final report of the review containing its specific recommendations will be submitted to the forthcoming Conference for decision, and will incorporate new solutions into the ITU legal regime in order to increase efficiency and equity in spectrum/orbit utilization, and to respond to the

requirements of the changing telecommunication and business environment.

In conclusion, in response to the request of last year's session of COPUOS, substantial documentation on the regulatory procedures of the ITU has been prepared jointly by the Office for Outer Space Affairs and the ITU Secretariat. This document describes in detail the above-mentioned principles and regulations of the ITU and was submitted to the 1997 session of the Legal Subcommittee; it was well received by the Subcommittee and contributed to substantive discussions under item 4 of its agenda.

The ITU Secretariat expresses its appreciation for this opportunity to participate in the discussions and to contribute to the work of the Subcommittee.

The CHAIRMAN: Are there other any delegations wishing to speak on this agenda item at this time? I see none. I have been told that delegations would like to meet this afternoon: they can meet in Room C-0713 to hold informal consultations on UNISPACE III. In order to provide time for consultation, we will meet this afternoon at 3.30 p.m. This will also allow those delegations attending the meeting of the Group of 77 the necessary time for that meeting.

It is my intention to close discussion on agenda items 7, 9(a) and 8 today, with the cooperation of all delegations. Agenda item 9(b) will be kept open if necessary. This afternoon we will begin our discussion of agenda items 10 and 11.

The sitting adjourned at 12.15 p.m.

United Nations COPUOS/T.439

Committee on the Peaceful Uses of Outer Space

Unedited transcript

439th Meeting
Thursday, 5 June 1997, 3.30 p.m.
Vienna

Chairman: Mr. RAO (India)

The meeting was called to order at 3.45 p.m.

The CHAIRMAN: I now declare open the 439th meeting of the Committee on the Peaceful Uses of Outer Space. This afternoon we will continue our joint consideration of agenda items 7 and 9. While keeping open agenda item 9(b), on preparations for UNISPACE III, we will try to conclude our consideration items 7 and 9(a). We will also continue and conclude our consideration of agenda item 8.

We will begin our consideration of agenda item 10, "Spin-off benefits of space technology", and item 11, "Other matters". I would therefore urge all delegations wishing to speak on any of these remaining agenda items to inscribe their names on the list of speakers as soon as possible.

Report of the Scientific and Technical Subcommittee on the work of its thirty-fourth session (cont.)

Implementation of the recommendations of UNISPACE 82, as well as Preparations by the Preparatory Committee for the United Nations Third UNISPACE Conference (cont.)

The CHAIRMAN: The first speaker on my list is the distinguished representative of the Czech Republic.

Mr. L. PEREK (Czech Republic): I apologize for making a second intervention on the subject of space debris, but my delegation would like to react to the statement made this morning by the Russian delegation. We also share the impression that there was not sufficient time, during the recent session of the Scientific and Technical Subcommittee, to discuss the technical report on space debris, although the experts and staff of the Office for Outer Space Affairs made a great effort to prepare it in time.

My delegation therefore supports the proposal made by the Russian Federation to request the Chairman of the Subcommittee to invite Member States to cooperate in the preparation of the report during the inter-sessional period. The IADC should also be invited to participate in this process. Every effort must be made to maintain the high quality of presentation of scientific and technical reports; this is the only way the report can do full justice to the excellent technical presentations made during the last session of the Subcommittee. In addition, the Subcommittee might wish to take the issue of space debris as the first substantive item on its agenda in order to provide sufficient time for the drafting group to finalize the report.

The CHAIRMAN: Are there any other delegations wishing to speak on these agenda items at this time? I give the floor to the distinguished representative of Germany.

Mr. G. FULDA (Germany): I would like to make a spontaneous comment at this point. So far only one or two delegations have spoken in favour of inter-sessional consultations; my delegation is not yet convinced of the wisdom of holding such consultations.

The CHAIRMAN: I now give the floor to the distinguished representative of the Republic of Korea.

Mr. SUNQ JOO CHOI (Observer, Republic of Korea): My delegation would like to express its appreciation to the Chairman of the Scientific and Technical Subcommittee, Professor Rex. We are pleased to note the progress achieved at the last session of the Subcommittee, particularly as concerns space debris and preparations for UNISPACE III.

Concerning space debris, remarkable progress has recently been achieved. The multi-year workplan which

was adopted at the Subcommittee's thirty-second session has led to substantial discussion of this important topic. The technical report on the modelling of the space debris environment and risk assessment is a useful document which could serve as the basis for future discussion of this issue.

Space debris affects space and the environment, as well as the safe operation of spacecraft in orbit. Therefore, COPUOS must urgently address this matter. As part of our contribution to this problem of global concern, my delegation made several proposals at the last session of COPUOS. Due to the global nature of the space debris problem, COPUOS must cooperate with the space-faring nations to find a solution.

As my delegation suggested at the last session of the Subcommittee, a dual approach is necessary to resolve this issue. In the short term, the Committee should study the various aspects related to space debris in accordance with the multi-year workplan, including debris measurement techniques, the mathematical modelling of the debris environment, and measures to mitigate the risks caused by space debris. At the same time, COPUOS should consider the establishment of an international fund for space debris to help reduce its generation on a long-term basis.

As space debris represents an environmental issue, the principle of common but differentiated responsibilities could be applied to it in the future. My delegation feels that space debris is a subject which should also be discussed within the Legal Subcommittee, and we share the view expressed by the representative of the ILA that exchange of information on this important issue should take place between the two Subcommittees. My delegation suggests that space debris should be added as an item on the agenda of the Legal Subcommittee at the earliest opportunity, at latest upon completion of the current multi-year workplan.

Turning to the use of nuclear power sources in outer space, my delegation is pleased to note that, in cooperation with the IAEA, some progress has been achieved to consider a possible revision of the relevant Principles, due account being taken of the Convention on [Identification?] of Nuclear Accidents and the Convention on Assistance in the case of Nuclear Accidents or Radiological Emergency. Since revision of the current Principles will take some time, those States making use of nuclear power sources in outer space should conduct these activities in full accordance with the current Principles. At the same time, Member States are invited to report to the Secretary-General of the United Nations on a regular basis on national and international research concerning the safety of space objects with nuclear power sources on board.

As concerns UNISPACE III, my delegation would like to thank the Office for Outer Space Affairs for all the preparatory work carried out, and welcomes the results of the thirty-fourth session of the Scientific and Technical Subcommittee concerning the holding of the Conference. We would propose that COPUOS endorse the recommendations of the working group on the objectives, form, venue, date, participants, provisional annotated agenda, financial aspects and additional components. UNISPACE III should be seen as an occasion for the international community to discuss not only the promotion of international cooperation and sharing of the socio-economic benefits of outer space, but also to consider what humanity can do in order to make optimal use of space in a sustainable manner in the twenty-first century.

Outer space is the last frontier of mankind, and we should therefore establish a legal regime to govern its orderly and sustainable use for future generations.

The CHAIRMAN: Are there any other delegations wishing to address these agenda items at this time, or later? I see none. We have thus concluded our consideration of agenda items 7 and 9(a). Agenda item 9(b) will remain open for discussion until tomorrow.

Report of the Legal Subcommittee (cont.)

The CHAIRMAN: The first speaker on my list is the distinguished representative of China.

Mr. HUANG Huikang (China) (*interpretation from Chinese*): On behalf of my delegation, I would like to extend our congratulations and thanks, through the Chair, to the Chairman of the Legal Subcommittee, Mr. Mikulka. Under his able guidance the Legal Subcommittee made positive progress at its thirty-sixth session, as reflected in its report. My delegation appreciates the results achieved, and has several comments to make on the report itself.

This year marks the thirtieth anniversary of the Outer Space Treaty. Over the past 30 years, under the guidance of this Treaty, the Legal Subcommittee has made major achievements regarding the review of legal matters concerning the peaceful exploration and use of outer space, the formulation of international conventions and principles, and the establishment of the international legal order in space. The most recent example is the declaration on international cooperation in space, adopted at the last session of the General Assembly.

However, one must not conclude that the historic mission of the Legal Subcommittee has come to an end or been completed, or that its work can be reduced. With the rapid development of space science and technology, and the intensification and expansion of human activities in space exploration and use, new legal issues are emerging which require elaboration of new principles and legal provisions. As for the existing outer space treaties, principles and other legal instruments, there is also a need for their review and revision in the light of changing circumstances which are emerging. The role of the Legal Subcommittee must therefore not be weakened or diminished.

Regarding the examination and possible revision of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space, my delegation supports the recommendations of both the Scientific and Technical Subcommittee and the Legal Subcommittee. At the present time there is no need to revise and supplement these Principles. Discussion on this matter should be suspended for another year in the Legal Subcommittee, to allow the results of deliberations in the Scientific and Technical Subcommittee to be made available. The item should none the less be kept on the agenda of the Legal Subcommittee as a priority item in order to maintain a legal interest therein, and the Principles should accordingly be revised when new developments so warrant.

As concerns the definition and delimitation of outer space, this item has been on the Subcommittee's agenda since 1967. How to continue consideration of this item has become a matter of increasing concern to many delegations. The Chinese delegation shares the view of some delegations that the definition of outer space and the demarcation between outer space and airspace is a question that cannot be side-stepped in the field of the exploration and use of outer space. Legal regulation is necessary and consideration of this item should not be discontinued simply because views on it vary among Member States. My delegation supports continuing and patient discussion of this subject.

Turning to the question of the geostationary orbit, my delegation believes that as the geostationary orbit is a limited natural resource, how to ensure its equitable economic use through legal regulation, how to accommodate the interests of all States, particularly the developing countries, and how to harmonize this with the relevant procedures and regulations of the ITU are all issues which merit further consideration. The ITU World Radiocommunication Conference will take place in Geneva in October-November this year, and some delegations have suggested using this occasion to put forward a request to the ITU and its Member States to ensure equitable access to the geostationary satellite orbit and radio frequency spectrum resources.

My delegation welcomes the draft resolution prepared by Germany and endorses the proposal that the above-mentioned request be put to the ITU and its Member States. However, as a matter of principle, we are not in favour of any linkage between the adoption of this draft resolution and conclusion of consideration of the item on the geostationary orbit. Discussion of this issue within COPUOS is not in conflict with the role of the ITU; rather, they are mutually complementary. My delegation therefore supports continued consideration by the Legal Subcommittee of the related legal issues on the geostationary orbit.

The fifty-first session of the General Assembly having already adopted the declaration on international cooperation in outer space drafted by the Subcommittee, thus bringing to an end the consideration of the agenda item on space benefits, the need for a new item to be added to the Subcommittee's agenda is more important than ever. My delegation supports the inclusion of the new item on "Review of the status of the five international treaties on outer space", and discussion should continue regarding other new items for possible inclusion on its agenda.

My delegation appreciates the efforts and results of the Legal Subcommittee over recent years aimed at improving its working methods and supports all reform measures which will lead to further improvements.

The CHAIRMAN: The next speaker on my list is the distinguished representative of Argentina.

Mr. O. BEBAGLIATI (Argentina) *(interpretation from Spanish)*: As has already been stated by other delegations, this year marks the thirtieth anniversary of the adoption of the Outer Space Treaty. This has been the single most important contribution of this Committee in the field of space.

Six years before the Treaty was adopted, the former Soviet Union sent the very first human being into orbit in outer space. In a comparatively short space of time, the international community as represented within the United Nations was able to adopt this landmark document, with a major contribution from the legal bodies which were addressing that issue.

In 1968, the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space was adopted.

Therefore in the comparatively short period of time since space activities were first begun we have adopted major international instruments which are still current today and have been ratified by many Member States.

Subsequently, at a somewhat slower pace, the Convention on International Liability for Damage Caused by Space Objects was adopted in 1972, and in 1975 an agreement which is inextricably linked to this document was adopted, the Convention on the Registration of Objects Launched into Outer Space. In 1979, the Agreement Governing the Activities of States on the Moon and other Celestial Bodies was adopted, which has to date received only a low number of ratifications. No further conventions have been adopted since 1979, a period of some 20 years.

That codifying momentum in space law was something that has been lost. Many legal issues in this area are still outstanding, within both the Legal Subcommittee and the General Assembly. The Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting were adopted in 1982, followed by adoption of the Principles Relating to Remote Sensing of the Earth from Space in 1986. However, Member States were no longer in a position to adopt conventions, and so "soft law" was envisaged at that point in time: principles which were the expression of legal standards and norms but which were not conventions.

To put this in a concise manner, Member States and the space-faring nations did have a certain momentum during the first years of activities in space. Certain rules were established which could be universally accepted. But since that early momentum, the pace has slowed; many States believe that those are years where activities in terms of the legal aspects of space activities slowed considerably. The "rules of the game" were established at the outset, but since then other problems and issues have led to a situation where that momentum has been lost.

What is stated above is not an attempt to paint a grim picture: on the contrary. We would like some thought to be given to the need for revitalizing our input in both the Legal Subcommittee and the Committee itself, in order to keep to a certain standard in what earlier was an overriding concern to develop legal provisions in the field of outer space. This process of revitalization must meet with the required consensus from all Member States, those with major interests in space and those with lesser interests.

As concerns the Principles Relevant to the Use of Nuclear Power Sources in Outer Space, the Legal Subcommittee is as yet unsure whether or not to address this important issue. Input from the Scientific and Technical Subcommittee is necessary, but this process takes time. However, the subject must be addressed before any adverse impacts materialize. At present the Subcommittee has one main topic on its agenda, which is split into two sub-topics. The Mexican delegation proposed a new item which has now been adopted, and which has encouraged my delegation to make the above statement.

Defining outer space is not an easy matter, but as has already been stated by the distinguished representative of China, it cannot be ignored. We need to take whatever measures are necessary to come to some understanding within a reasonable period of time. One specific problem concerns the legal aspects relating to aerospace objects. In terms of the definition of outer space itself, this is one item where some progress might be achieved in the foreseeable future, in particular in discussions next year within the Legal Subcommittee. Member States have responded to the questionnaire circulated by the Secretariat, who have analysed the replies received. These are contained in another document which makes a valuable contribution to consideration of this subject. An in-depth analysis is now required within the Subcommittee, and my delegation will make comments on this at the appropriate time.

At the initiative of the Mexican delegation, an item was taken up which is of major importance. This is not merely a review of the texts currently in force, but also includes consideration by each delegation of the implications of treaties and compliance with them. It is not intended to revise or amend these treaties, as stated in the report of the Legal Subcommittee. The interest displayed by Member States in terms of implementation of and compliance with the Principles merits further analysis, although revision of the Principles is not necessary at this stage. Rather, new elements should be introduced into the legal order.

The Legal Subcommittee also held informal discussions on other possible topics for inclusion on the agenda. My delegation welcomes all the issues proposed which represent major scope for the work of the Subcommittee. The issue of space debris is a serious one, and the link between space activities and the environment is equally important. Much still remains to be done on the legal aspects of outer space, and we should not neglect this if we wish to rekindle that initial spirit which prevailed in 1966. The Subcommittee should

bear this in mind when preparing standards and norms in the field of space law.

As concerns the use of the geostationary orbit, two contributions have been made: firstly, the proposal by Colombia in 1996, and the document prepared by Germany this year. My delegation expresses its appreciation for both of these initiatives, and feels that the proposal by Colombia has not been examined in sufficient detail. The Legal Subcommittee may wish to give more in-depth consideration to this proposal at its 1998 session, in order to recommend an appropriate course of action.

The proposal put forward by Germany represents a valuable contribution to the Subcommittee's work. This document has been revised on two occasions, and further revision is also possible, as certain countries may not yet have had the opportunity to study it in detail. Other issues not directly concerned with satellite communication but which are concerned with the use of the geostationary orbit merit further attention from the Legal Subcommittee. We must therefore pursue our analysis of this item within the Subcommittee, and subsequently within COPUOS.

As concerns aerospace objects, my delegation believes that those States which have not yet done so should reply to the questionnaire circulated by the Secretariat. Those countries which have already responded may indeed wish to supplement their replies in view of new information which has come to light. The Secretariat could then prepare an update of the report based on this information.

Regarding the proposed new agenda item and the Mexican initiative, my delegation hopes that this will enable us to draw on all the work carried out both in the Legal Subcommittee and in COPUOS. Subject to the agreement of the Committee, the Secretariat might ask Member States to provide information on their experience of the five treaties in question, and other related issues such as those sets of principles not specifically mentioned but which nevertheless have an impact for Earth observation and direct satellite broadcasting.

In conclusion, as concerns revitalizing our thinking and our contribution to space law, informal contributions are the most appropriate way of achieving this. My delegation proposes that this approach be adopted whenever appropriate in the Legal Sub-committee, taking due account of the possibility of holding informal consultations during meetings of COPUOS. Various matters could be considered, for example legal aspects relating to certain issues which specific delegations may wish to discuss.

My delegation believes that exchange of information and initiatives is indispensable to the achievement of progress in this direction. Without substantive discussion of the items on the Sub-committee's agenda, we will continue to exchange views and information but we will not be complying with our terms of reference as mandated by the General Assembly. In order to fulfil this mandate and renew our efforts, my delegation is ready to cooperate with delegations of all Member States.

The CHAIRMAN: I now give the floor to the distinguished representative of the Philippines.

Ms. M. PADUA (Philippines): My delegation would like to commend the work of the Legal Subcommittee at its thirty-sixth session. Due in large part to the intensive efforts made to improve the working methods of the Subcommittee, positive results were achieved.

My delegation notes with interest the draft resolution proposed by Germany, entitled, "Request to the International Telecommunication Union: Ensuring equitable access to the geostationary satellite orbit". We support the view that COPUOS and its Subcommittees should strengthen cooperation with the ITU. However, the Committee should also continue its work towards the elaboration of a political and legal regime for the utilization of the geostationary orbit, to ensure equitable access to all users. My delegation does not subscribe to the view that the adoption of the draft resolution would imply the conclusion or suspension of the agenda item on this subject.

My delegation therefore recommends that this Committee should continue its discussion on the geostationary orbit, as well as on the proposal by Germany, in order to provide all delegations with the opportunity to examine its merits. The issue of the geostationary orbit is a complex one, as witnessed by the fact that the Legal Subcommittee has not yet agreed on what is to be done vis-à-vis the proposal by Colombia. My delegation believes the Subcommittee's mandate to examine this issue is important, and that sufficient time should be devoted to this subject.

The successful adoption of the Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interests of All States, taking into particular account the Needs of Developing Countries – despite the tedious and lengthy

process leading to its adoption – should provide the impetus and political will for the Committee to pursue its work on this subject. Moreover, the Declaration should serve as a guide for the international community in tackling matters relevant to the use of outer space, including the utilization of the geostationary orbit for the benefit of all countries.

My delegation welcomes the adoption by the Legal Subcommittee of the proposal by Mexico to include a new agenda item on "Review of the status of the five international treaties governing outer space". This should provide the momentum to explore the inclusion of other items for inclusion on the agenda, in particular those dealing with international cooperation.

The CHAIRMAN: The next speaker on my list is the distinguished representative of Spain.

Mr. A. TREJO (Spain) *(interpretation from Spanish)*: My delegation would like to make a brief comment on the draft resolution proposed by Germany. We have studied this document in detail and consider it to be an excellent proposal which we fully support. Some difficulties do exist concerning the removal of this item of the Subcommittee's agenda, but my delegation believes efforts should be deployed to enter into negotiations. In that way, with a spirit of compromise we might reach an agreement which would enable us to adopt the document during the present session of the Committee.

My delegation feels it is important for this draft resolution to be adopted prior to the convening of the World Radiocommunication Conference, and ways and means of achieving this should be given due consideration at the present session.

The CHAIRMAN: I now give the floor to the distinguished representative of Indonesia.

Mr. H. WIRYOSUMARTO (Indonesia): My delegation would like to make a short statement on those subjects which we consider to be the most important.

Concerning agenda item 8, my delegation supports the view expressed by the Group of 77 that all items presently on the agenda of the Legal Subcommittee should be maintained. It is not advisable to remove any item from the agenda until substantive consideration of it has taken place. While we are open to the discussion of proposals concerning the geostationary orbit, this item should nevertheless be maintained on the agenda. My delegation believes that the Subcommittee is the appropriate body of the United Nations to deal with the legal and political aspects of the geostationary orbit.

The CHAIRMAN: The next speaker on my list is the distinguished representative of Cuba.

Mr. H. HERERA CREGO (Observer, Cuba) *(interpretation from Spanish)*: Since this is the first occasion on which my delegation has taken the floor, I would like to express our congratulations to the new members of the Bureau on your election.

The results which emerged from the last session of the Legal Subcommittee were very positive. My delegation concurs with the views expressed by the representatives of GRULAC and the Group of 77, in particular as concerns the geostationary orbit and its continued inclusion on the agenda of the Legal Subcommittee. Under present circumstances, this item should be neither deleted nor suspended from the agenda. It should be discussed together with the definition and delimitation of outer space, in view of the obvious interrelationship between the two issues.

The CHAIRMAN: Thank you for your statement and your kind words addressed to the Bureau. I now give the floor to the distinguished representative of Germany.

Mr. G. FULDA (Germany): At the last session of the Legal Subcommittee, my delegation presented a working paper containing a draft resolution entitled, "Request to the International Telecommunication Union: Ensuring equitable access to the geostationary satellite orbit" (document A/AC.105/C.2/L.207). The aim of this proposal was to reach a constructive conclusion to our considerations on the status and character of the geostationary satellite orbit under agenda item 4.

The working paper reflected the interests of both industrialized and developing countries alike in the equitable access to the orbit/frequency spectrum resources of the geostationary orbit. The draft resolution is addressed to the Member States of the ITU to guarantee equitable access for all States. It is also addressed to the World Radiocommunication Conference of the ITU, to be held in October-November 1997, and which will take far-reaching decisions relating to equitable access to the geostationary orbit. My delegation believes that COPUOS should provide an input to that conference.

My delegation was pleased to note that the draft resolution was well received by many delegations and that, through the constructive support of these delegations as well as the observer from the ITU, the text of

the draft resolution was considerably improved during the meetings of the drafting group. The resulting text (see document A/AC.105/C.2/L.207/Rev.2) is annexed to the Subcommittee's report.

The Legal Subcommittee acknowledged the merits of this draft resolution and agreed that it could form the basis for a consensus at this meeting of COPUOS. In order for the resolution to be presented to the World Radiocommunication Conference, the Committee has to reach an agreement during the present session. Bearing in mind that the text of the draft resolution represents a well-balanced compromise, my delegation calls upon all delegations to adopt the text of the draft resolution. Much effort has gone into forming this compromise text, and COPUOS should take this opportunity to present its views on the important subject of equitable access to the geostationary orbit.

Informal consultations are already taking place between interested delegations. My delegation has asked for the floor at this point in time, although as yet no acceptable result has been achieved, but we wished to try and make the best use of conference facilities. However, during these informal consultations we have been confronted with certain viewpoints which have created considerable irritation in my delegation; it may even prompt us to withdraw our initiative. My delegation will continues its efforts to achieve a consensus resolution, but should these efforts prove unsuccessful, we would ask for the Committee's indulgence to take the floor again under this agenda item.

With respect to the proposal for a new agenda item entitled "Review of the status of the five international legal instruments governing outer space" (document A/AC.105/C.2/L.206), proposed by Mexico, my delegation reiterates its support for this initiative. We are willing to contribute to future discussions on this new agenda item.

Finally, as concerns other subjects for possible discussion in the Legal Subcommittee, in particular the issue of space debris, my delegation's position as explained and presented at our recent meetings remains unchanged. We believe it is premature to contemplate discussion of this issue in the Legal Subcommittee before it has been thoroughly studied in the report of the Scientific and Technical Subcommittee. This relates not only to issues with direct relevance to space debris but also to those which are indirectly closely related with space debris. To date there is not consensus support for such discussion in this Committee.

The CHAIRMAN: I now give the floor to the distinguished representative of Chile.

Mr. A. CELEDON (Chile) *(interpretation from Spanish)*: My delegation would like to explain its position vis-à-vis the subjects under consideration in the Legal Subcommittee.

Firstly, as concerns the approval of a new item for consideration by the Subcommittee on "Review of the status of the five international legal instruments governing outer space", now is an appropriate time to consider this issue as it is 30 years since the Outer Space Treaty was adopted. This new agenda item was a response to a situation which had evolved in the Subcommittee where no further items for consideration existed. Items on spin-off benefits of outer space and the use of nuclear power sources had been successfully addressed by the Subcommittee; this thus opened up a new area for consideration, that of space law. This subject is one which initially had great impetus in the Subcommittee but the pace has gradually slowed down.

The adoption of the new agenda item does not imply that other items may not also be added to the agenda of the Subcommittee. Specifically, my delegation mentioned an item which is a comparative study of space law as related to environmental law. Space debris is another interesting and vital issue which could be considered, and the situation should be monitored to ensure that topics of interest for space law might be discussed within the Subcommittee.

Another important subject is the geostationary orbit. My delegation reiterates what is stated in the report of the Subcommittee, namely that the Subcommittee and the appropriate working group considered the working paper put forward by the German delegation. This was analysed in great detail and subsequently revised. The report clearly states that while this working paper was debated, no consensus agreement was reached. The main issue of concern was whether or not adoption of the draft resolution would lead to removal or suspension of the item on the geostationary orbit from the Subcommittee's agenda, and again no consensus decision was reached. The same is true in the present Committee: we do not have consensus agreement to approve the document.

My delegation reiterates that adoption of the German proposal should not imply completion of consideration of the geostationary orbit in the Legal Subcommittee. We believe that both the German working paper and the Colombian document, when taken together, offer the necessary momentum to continue our

consideration of this subject. We should continue to seek ways and means of achieving consensus.

The CHAIRMAN: I now give the floor to the distinguished representative of Germany.

Mr. G. FULDA (Germany): I ask for your indulgence in asking for the floor again, but I have one particular comment to make after having listened to the views of several delegations on the proposal put forward by my delegation.

Several delegations have spoken against removal of this item from the Legal Subcommittee's agenda. In fact I am not aware of any delegation here present who has specifically requested such removal. The only suggestion discussed was to temporarily suspend consideration of the item. As I mentioned earlier, my delegation will make every effort to find a consensus within the Committee. I hope the majority of delegations will be prepared to participate in these informal consultations, which should address the working paper itself rather than discussion of a situation which does not in fact exist.

The CHAIRMAN: It is clear from our discussions that we do not have a consensus, and therefore further informal consultations are required to try to finalize discussion on agenda item 8. For the time being, it is my intention to close discussion on agenda item 8 in order to allow delegations to continue with further informal consultations, and continue discussion on it tomorrow.

It is so decided.

Discussion on agenda items 9(a) and 8 will continue tomorrow. We will now turn to our discussion of agenda item 10.

Spin-off benefits of space technology

The CHAIRMAN: The first speaker on my list is the distinguished representative of the United States.

Ms. S. KAMM (United States of America): On behalf of my delegation, I have pleasure in giving the Committee details on the spin-off benefits of NASA's space technology, which has recently been commercialized.

The active and productive collaboration between NASA and United States industry has resulted in the development of new and improved products and processes based on space-related research. I will give examples of these spin-off benefits in the fields of health and medicine, transportation, public safety, and industrial productivity.

A telemedicine demonstration project exemplified the collaboration between NASA and US industry in the field of health and medicine. NASA is actively engaged in developing new technologies applicable to both space and Earth telemedicine and in promoting broader acceptance of telemedicine by carrying out demonstrations of the technique's potential, in cooperation with local governments and the medical and industrial communities.

A telemedicine demonstration project for a medically under-served population in the United States, begun in 1995 and planned as a permanent operation, links the University of Texas Health Sciences Center at San Antonio, Texas with South Texas Hospital, which is 250 mils away in Harlingen, Texas. The South Texas area is classified as medically under-served, with a special problem of a lack of physicians and nurses trained in oncologic or cancerous diseases.

The demonstration project provides two-way audio/video linkage; physicians from the University of Texas Health Sciences Center can see and talk with South Texas patients, review laboratory work and consult doctors who provide primary care at South Texas Hospital. They also conduct some 80 hours per month of "teleclinics" and give guidance in paediatric oncology nursing techniques and family counselling. NASA provided funding and expertise for this project, while VTEL Corporation and the Healthcare Open Systems and Trails Consortium provided off-the-shelf computer hardware, networking systems and staff support.

The Dyna Med Anti-Shock Trousers (DMAST) suit, an anti-shock garment, is another example of the medical application of space technology. In 1971 NASA developed a prototype pressure suit designed for haemophiliac children. NASA curtailed the project due to lack of funding, but Zoex Corporation in California continued the development project. This resulted in the DMAST suit, which is currently being distributed exclusively by Dyna Med in California.

There are currently more than 1,000 DMAST suits in use. The DMAST suit reverses the effect of shock on the body's blood distribution by applying counterpressure to the legs and abdomen, returning blood to vital organs and stabilizing body pressure until the patient reaches a hospital. Unlike other pressure suits, the DMAST is non-inflatable and has no tubes, bladders or valves and, consequently, no risk of punctures or leaks. Its simple

one-piece design makes application very rapid (less than 60 seconds) and easy. The DMAST suit has demonstrated its effectiveness in treating shock caused by trauma, complications of pregnancy, ruptured internal organs, severe allergic reactions, brain injury and paediatric emergencies.

In the field of transportation, NASA technology is used in the operation of the first and most advanced Intelligent Transportation System in the United States. This system was started in July 1995 as part of the Transportation Guidance System (TransGuide) in San Antonio, Texas – the tenth largest city in the United States. Allied Signal Technical Service in Maryland developed TransGuide under contract to the Texas Department of Transportation, which incorporates technology developed by Allied Signal under various contracts with NASA.

TransGuide makes the road network intelligent through the application of advanced video, sensor, computer and communications technologies. The system monitors the passage of traffic over sensors embedded in the roadways and detects incidents. Control centre operators are alerted to an accident occurring, and the area of the accident is highlighted on a map display. The deployment of advanced technologies provides San Antonio with a safer, more efficient highway system, enables more fluent traffic flow, reduces auto fuel consumption and emissions, and allows more rapid detection for response to accidents.

NASA's Aircraft Structural Integrity programme, which addresses ways of enhancing the safety of aging commercial jetliners, is developing a variety of devices and procedures for detecting cracks, disbonds and corrosion during routine aircraft service inspections. NASA has invented a device to detect fatigue cracks in aluminum alloy plates. KB Instruments, in Pennsylvania, has commercialized one device, called the "CrackFinder". This is a hand-held electromagnetic probe for non-destructive evaluation, which is a very reliable, low-cost method for rapid scanning of aircraft skins for surface breaks. The technology involves an eddy current, an electrical current induced by an alternating magnetic field. The CrackFinder is affordable, small, easy to use, highly accurate, reliable and needs no calibration.

Space technology continues to improve industrial productivity. NASA uses automated systems for ground processing operations prior to each space shuttle flight to reduce time, lower costs and increase efficiency. However, these automated systems also increase the risk that an errant robot might damage critical flight hardware.

Under contracts to NASA from 1991 to 1995, NASA and Merritt Systems Inc. (MSI) in Florida developed an obstacle detection system to ensure that robots avoid collisions in their workplace. MSI's sensing architecture allows the retrofitting of existing robots with a whole-arm obstacle detection and avoidance system. MSI commercialized the obstacle detection system in 1995, and this comprises a sensorSkin that is wrapped around robots and contains over 1,000 sensors. The associated compact, low-cost smartSensor modules perform analog processing and handle the communications between the module and control computer. Robots which incorporate the MSI sensorSkins and smartSensor technology are now being used in space shuttle processing. The commercial potential ranges from use in robotic manufacturing systems to remote hazardous waste clean-up.

The United States remains committed to the dissemination of space-related technologies to meet the challenges of everyday life. We have provided each delegation to this meeting with a copy of NASA's Spin-off 1996 brochure.

The CHAIRMAN: The next speaker on my list is the distinguished representative of Italy.

Ms. G. ARRIGO (Italy): The present agenda item is strongly linked to the ways and means of maintaining outer space for peaceful purposes, and my delegation would like to mention two projects in the fields of life science and telemedicine.

The increasing number of manned space missions highlights the importance of calculating the biological risks to which astronauts are exposed. The phenomenon of "light flashes" experienced by astronauts since the early space flights is one of the most interesting examples of radiation-induced effects detected on human beings. Recently a group of Italian researchers (INFN), in collaboration with a group of Russian researchers (MEPHI) have built a prototype silicon detector, called SI-eye 1, for an experiment which was carried out on the Russian space station MIR from October 1995 to March 1996.

These researchers are currently working on a more refined version, SI-eye 2, which will be launched within the next few months. It is hoped that these experiments will help to clarify the problem, due to the small geometrical acceptance, addressing only questions related to the particle-retina interactions. That is why

they are now studying a new instrument, ELFO, which will be able to detect and identify incoming particles over a large part of the context, integrated with other systems, with the following aims: a specific assessment of the mechanism which gives rise to the light flashes; full and accurate monitoring at the single particle level of the entire radiation impinging on the human skull; a possible correlation between space radiation and functional responses of the bioelectrical brain activity; and provision of additional information for more accurate dosimetry.

The second telemedicine project, SHARED (Satellite Health Access for Remote Environment Demonstrator), has been a humanitarian experience and a peacekeeping mission developed in both Bosnia and Albania.

My delegation believes that health services are crucial, and these services must be low cost and efficient. In order to reach the developing countries or problem areas (war, natural disaster, etc.), satellites must be used. Satellites can supply various kinds of images for ultrasound as well as audio, management, clinical, epidemiological, literature data, and others. The SHARED programme has been accomplished due to collaboration between the Italian Ministry of Defence, the Italian Space Agency, the European Space Agency and a consortium made up of an international scientific biomedical science park and some Italian industries.

The pilot project is providing health-care services to the Italian field hospital in Sarajevo, linked to the scientific Institute San Raffaele in Milan, and the military hospital Celio in Rome. The communication infrastructure is supplying a multi-point video conference system, which allows medical consultations between the three hospitals, as well as data transfer of X-ray, CT scan, pathology samples and others.

As at December 1996, this project has been operational for some 410 hours. The results achieved during this period include 58 teleconsultations, 60 clinical cases and several training courses for medical personnel of the civilian hospital in Sarajevo. The availability of experts in the various medical disciplines has allowed local medical personnel to improve diagnoses and therapies in as many as 60 per cent of the cases analysed.

The SHARED network is now being extended to cover Albania (Tirana and Valona) and it is foreseen that it will extend to 15 hospitals in European and the Mediterranean basin.

The CHAIRMAN: Are there any other delegations wishing to address this agenda item at this time? I see none. We will thus continue and conclude our consideration of this agenda item tomorrow morning. We will now proceed to agenda item 11.

Other matters

The CHAIRMAN: The first speaker on my list is the distinguished representative of Italy.

Ms. G. VENTURINI (Italy): My delegation would like to make a brief statement concerning the methods of work of the Committee and its subsidiary bodies.

My delegation welcomed the Chairman's package proposal, including items on consensus agreement on the composition of the Bureau, agenda structures and the duration of sessions. We are especially pleased to note the recommendation made that the duration of the Legal Subcommittee's sessions be reduced to two weeks, a proposal we have repeatedly supported in previous years. A further improvement could be made by reducing the duration of COPUOS itself to one week. This would help to clarify its plan of work and enhance its transparency and efficiency.

As concerns the records of the Committee and the Legal Subcommittee, my delegation recognizes that the use of unedited verbatim transcripts greatly contributes to reducing the costs of these sessions. Therefore we believe this practice should be maintained.

The CHAIRMAN: Are there any other delegations wishing to speak on this agenda item at this point in time? I see none. We will therefore continue our discussion of this item tomorrow morning.

You may recall that at this morning's session I informed delegates of the background documentation related to the granting of observer status to the International Space University. If I hear no objections, I propose that this organization be granted permanent observer status with the Committee, in accordance with the agreement of the Committee at its thirty-third session concerning observer status of non-governmental organizations in document A/45/20 (para. 137). It is stipulated therein that these organizations will also apply for consultative status with the Economic and Social Council.

It is so decided.

I would like to briefly recall a matter before us under agenda item 11, the use of unedited verbatim transcripts. As you will recall, starting with its thirty-ninth session and on its own recommendation, the Committee was provided with unedited verbatim transcripts in lieu of verbatim records. Accordingly, the General Assembly requested that the Committee evaluate the use of unedited transcripts at its fortieth session and inform the General Assembly, at its fifty-second session, of the Committee's experience with the transcripts.

The General Assembly also requested the Committee to keep it informed, through the Committee on Conferences, of its experiences with the use of unedited transcripts. To this end the Secretariat has prepared document A/AC.105/1997/CRP.3, which details the Committee's utilization of unedited verbatim transcripts, including a preliminary evaluation by the Secretariat and comparative cost figures of the transcripts in comparison with verbatim and summary records. Are there any delegations wishing to take the floor under this agenda item? Does this mean that the Committee is in agreement that it continue to use unedited verbatim transcripts in lieu of verbatim records?

I give the floor to the distinguished representative of Japan.

Mr. H. AZUMA (Japan): As concerns the use of unedited verbatim transcripts, my delegation appreciates the initiative taken by the Secretariat in this respect as well as the results of the unedited transcripts of the Committee's last session. However, we believe that the Committee should continue to examine whether these transcripts are valuable or not in due course.

The CHAIRMAN: The Committee will continue to use unedited verbatim transcripts, subject to any revisions proposed according to the experience of delegations. I now give the floor to the distinguished representative of the United States.

Mr. K. HODGKINS (United States of America): My delegation would like to support the statement made by the distinguished representative of Japan concerning the transcripts. We also welcome the decision to use unedited verbatim transcripts, which represent a significant cost saving. Our question is whether in future it will be necessary to continue to issue these transcripts.

In document A/AC.105/1997/CRP.3, paragraph 6, we note that the verbatim transcripts of the 1995 session have not been issued in all languages. It also takes up to three months to issue the unedited verbatim transcripts, and my delegation is not convinced that these transcripts are particularly useful considering that we have reports of both the Committee and its Subcommittees. Therefore we would like to keep this question open for next year's session.

The CHAIRMAN: We will continue with the use of unedited verbatim transcripts at present, and review this situation at a later stage.

I will shortly adjourn this meeting of the Committee. Before doing so, I would like to remind delegations about tomorrow's schedule of work. We will continue and conclude our consideration of agenda items 10 and 11; and continue and hopefully conclude our consideration of agenda item 9(b) on preparations for UNISPACE III, and agenda item 8. I hope that the informal consultations taking place in connection with agenda item 8 will achieve some positive progress.

I would propose that we then begin our consideration of the draft report of the Committee at our meeting on Monday morning. The Secretariat has informed me that if possible, all documents will be prepared in time for Monday. Accordingly, it may be possible for us to complete our work on Monday or Tuesday morning, or at least by Tuesday afternoon. Once we have concluded our work on the substantive items on the agenda tomorrow, the remaining time should be allocated to the Secretariat in order for it to complete its preparation of the draft report.

I give the floor to the distinguished representative of Spain.

Mr. A. TREJO (Spain) *(interpretation from Spanish)*: My delegation does foresee a problem in concluding our consideration of agenda item 10 tomorrow. Agenda item 10 had originally been scheduled for discussion on Tuesday, 10 June; one of the experts in my delegation who will be making a statement under this item is due to arrive only on Sunday, 8 June. Would it therefore be possible to allow some 30 or 40 minutes on Monday, 9 June, to conclude our discussion on this item, as it will be impossible for our experts to be here tomorrow.

The CHAIRMAN: The schedule I outlined above was indicative in nature, and in conformity with the Committee's own recommendation that we should make the most efficient use of our time. Of course we understand the situation, and discussion can continue on agenda item 10 on Monday morning before beginning our discussion of the draft report.

Immediately following this Committee meeting, informal consultations on UNISPACE III will be held in Room C-0713 for those delegations interested in taking part in such discussions. I hope there will also be informal consultations concerning agenda item 8 between now and tomorrow afternoon to see if some acceptable solution can be reached. The Committee is now adjourned.

The sitting adjourned at 5.25 p.m.

United Nations COPUOS/T.440

Committee on the Peaceful Uses of Outer Space

Unedited transcript

440th Meeting
Friday, 6 June 1997, 10 a.m.
Vienna

Chairman: Mr. RAO (India)

The meeting was called to order at 10.20 a.m.

The CHAIRMAN: I now declare open the 440th meeting of the Committee on the Peaceful Uses of Outer Space.

Agenda item 9(b), on preparations for UNISPACE III, remains open. I have been informed that the informal consultations which have taken place have met with a degree of success and that some concrete proposals will be presented, possibly this afternoon. Therefore it seems logical to postpone our discussion of agenda item 9(b) until this afternoon, and to conclude our discussion of this item by the end of today.

As concerns agenda item 8, it was suggested that informal consultations should take place to attempt to find an acceptable wording. I believe that further time is required for these consultations, and we will thus also postpone our discussion of agenda item 8 until this afternoon.

We will therefore continue our consideration of agenda item 10, "Spin-off benefits of space technology". This item will remain open for discussion until Monday morning in order to allow the delegation of Spain the opportunity to make its presentation under this item. We will also continue and conclude our discussion of agenda item 11 today.

As I announced yesterday, if we are able to conclude our substantive work by this afternoon, we may request the Secretariat to begin their preparation of the draft report of the Committee. The draft report could then be considered on Monday morning, following the presentation by the delegation of Spain to which I have just referred.

I give the floor to the distinguished representative of the Russian Federation.

Mr. P. DZOUBENKO (Russian Federation) *(interpretation from Russian)*: As this is the first occasion upon which I have taken the floor, I would like to congratulate you on your election to this important position.

My delegation added their name to the list of speakers yesterday, in order to speak under agenda item 8 today. If there is enough time, we could perhaps still do so this morning. Secondly, at this point in time my delegation has the following comment to make. We understand your desire to conclude the session as early as possible. My delegation agrees that the length of the session should not be prolonged unnecessarily, but at the same time, neither should we try to move too quickly in order to conclude our meeting on Monday. If necessary we can still work on Tuesday and Wednesday.

As concerns agenda item 8, there are various other interested delegations who are awaiting the outcome of the informal consultations on the draft working paper prepared by the German delegation. During the last session of the Legal Subcommittee, a small working group was set up to consider that document, and as a result of the work carried out in that group and to the efforts and spirit of compromise of the German delegation, this document has started to take on an acceptable form. It is possible that time still remains for a working group to be set up today, in order to make further progress. My delegation feels that we are close to reaching a compromise text, and if can formalize our working process and dedicate some time to consideration of this working paper, a solution might be reached. The German delegation is willing to be flexible and thus no major problems loom on the horizon in this respect.

The CHAIRMAN: It is not my intention to move our discussions along without giving full consideration to all agenda items. If necessary, we will certainly continue until next Wednesday.

I have the distinguished representative of the Russian Federation on my list of speakers under agenda item 8, and I will open this item for discussion this morning. I hope it may also be possible to form a working group, or hold informal consultations, to try and obtain some results on this item. I now give the floor to the distinguished representative of Canada.

Mr. S. LESSARD (Canada): On a point of order, my delegation also intends to make a statement under agenda item 10. It may be possible to make this statement today or it may have to wait until Monday, depending on the availability of the expert who will make the presentation. We would therefore be grateful if this option could be left open.

The CHAIRMAN: If the statement is not given today, it can be made on Monday, along with the presentation by the delegation of Spain. The distinguished representative of China has requested the floor.

Mr. HUANG Huikang (China) *(interpretation from Chinese)*: My delegation would like to support the proposal put forward by the delegation of the Russian Federation. A small working group should be established to consider the draft working paper presented by the German delegation to try and find a solution at this session of the Committee.

The CHAIRMAN: After the presentations on agenda item 8, a decision will be taken concerning the formation of a working group. If there are no further requests for clarification, we will turn to agenda item 9(b). There have been some positive results from the informal consultations which have taken place on this item, which will be presented this afternoon. If no other delegation wishes to take the floor on this item, we will continue our discussion of agenda item 9(b) this afternoon. We will now continue our discussion of agenda item 8.

Report of the Legal Subcommittee (cont.)

The CHAIRMAN: The first speaker on my list is the distinguished representative of the Russian Federation.

Mr. P. DZOUBENKO (Russian Federation) *(interpretation from Russian)*: My delegation believes that the last session of the Legal Subcommittee was one of the most positive sessions held over the last few years.

The major result achieved at that meeting was the adoption of the recommendation to include a new item on the Subcommittee's agenda, proposed by Mexico, "Review of the status of the five international treaties on outer space". This subject is of great interest as concerns international cooperation in outer space, in light of all the changes which have taken place since the last of the five treaties was signed in 1979.

One problem which has recently arisen concerns the registration of space objects. My delegation hopes that consideration of this issue at future sessions of the Legal Subcommittee will lead to discussion on further problems which call for in-depth development in order to identify new areas of cooperation in outer space.

My delegation believes that the Committee could recommend to the General Assembly that the above-mentioned issue be included on the Subcommittee's agenda, on the understanding and subject to the conditions contained in the Subcommittee's report. That report states that the review of the treaties should not result in any revision of these instruments; discussion should be restricted to the next three sessions of the Subcommittee only. The Subcommittee's deliberations on this item should result in a substantive report for submission to COPUOS, containing an analysis of the work carried out on the five treaties as well as recommendations as to how to remedy any problems identified concerning the regulation of international cooperation in outer space.

At the last session of the Subcommittee, a tense discussion took place concerning the question of the geostationary orbit. Certain delegations felt it was necessary to remove this item from the Subcommittee's agenda, arguing that the item had been debated over a period of years with no visible results having been achieved. It was also felt that the ITU was competent to deal with matters concerning access to the geostationary orbit and regulatory activities thereon.

My delegation reiterates its position, already stated during the session of the Subcommittee, that removal of this item from the agenda is not fully justified. Firstly, the ITU is primarily called upon to deal with the technical aspects of the geostationary orbit, and the legal aspects of this issue does not fall within its area of competence. Secondly, the ITU has its own problems as concerns the geostationary orbit: a glaring example of this is the problem of the so-called paper satellites, which has not been solved. The whole procedure for frequency allotment is also a problem, and there is an extraordinary overload in the coordinated frequency bands. The process of coordination among administrations of States is taking years to resolve, in some cases with no success at all.

The above problems hinder the development of communication. In accordance with the documents prepared by the fourth research committee of the ITU, the list of registered orbital positions published by the ITU radiocommunications bureau does not reflect the truly active satellite systems. This means that in fact a high number of paper satellites exist, and this in turn hinders the whole coordination procedure. Furthermore, the planned frequency assignments allotted are not fully utilized, thus representing a frozen reserve of orbital positions and frequencies for countries hoping to make use of them in the future.

Commercialization of the use of the orbital services takes place through the sale of transmitting channels via satellite, as well as *de facto* presentation of orbital positions to other countries. My delegation welcomes the efforts made by the ITU to remedy this situation, but we feel that the problems of the rational use of the geostationary orbit cannot fall outside the purview of COPUOS. The presentation and adoption of the new compromise document, prepared by the German delegation, represent welcome progress and my delegation is ready to work on this draft proposal in a spirit of compromise and cooperation at the current session. We reiterate our position that the rational use of the geostationary orbit should remain an area which falls within the competence of both the Committee and the Legal Subcommittee. Regular reports should continue to be given to the ITU on work carried out.

At this point, as has already been suggested, if a working group is set up to continue discussions on the draft working paper, my delegation would be happy to take part. In stating that the subject of the geostationary orbit should remain on the agenda of the Subcommittee, that is not to say that it should be discussed at each and every Subcommittee session. By the year 2000, for example, the situation could be reviewed and discussion of this subject could take place possibly on a rotational basis. However, the item should remain on the Subcommittee's agenda. At forthcoming sessions of both the Committee and Subcommittee, without re-examining the entire topic of the geostationary orbit, discussions could be restricted to certain issues, such as the conclusions of the World Radiocommunication Conference on the problems of the use of the geostationary orbit in accordance with the existing norms of outer space law.

During past sessions of the Legal Subcommittee, representatives of the ITU have mentioned a series of interesting ideas, such as solving the problem of paper satellites. The results obtained by the ITU would be of interest to both the Committee and the Subcommittee, in the hope that a positive solution can be found. Consideration could then be given to whether this item should be retained on the agenda and periodically reviewed.

As concerns the use of the geostationary orbit, my delegation feels it is important that we do not lose sight of the fact that the Legal Subcommittee also had before it the working paper submitted by Colombia. Unfortunately, there has not been a full debate on this document in the Subcommittee, but its contents certainly merit more in-depth discussion.

With regard to the delimitation of outer space, it was clear from discussions at the last session of the Legal Subcommittee that many Member States are still interested in this subject and other interrelated matters. So far, 17 replies have been received to the questionnaire on outer space objects circulated by the Secretariat. My delegation regrets that not all Member States of the Committee have replied to this questionnaire, as this hinders the analysis of the responses received. At the Subcommittee's last session, my delegation proposed that on the basis of the replies received and in addition to the analysis of them prepared by the Secretariat, a sound analytical document should also be prepared. However, this work can only be fully effective if as many Member States as possible reply to the questionnaire. Feedback is vital, and we therefore appeal to those delegations present to reconsider the questionnaire and send their replies to the Secretariat as soon as possible.

Following the last session of the Legal Subcommittee, my delegation would like to recall the informal consultations held by the Chairman of COPUOS, Ambassador Hohenfellner, on many other important issues, in parallel to the official meetings. We especially welcome the decision to retain the principle of consensus, which is essential to the work in the Committee and its Subcommittees. Consensus is the basic and unique principle guiding the adoption of all decisions taken. My delegation welcomes the suggestion to reduce the length of the Legal Subcommittee's sessions to two weeks, subject to the decision on the duration of each session being taken on an individual basis.

My delegation continues to believe that consideration of international space law as concerns the issue of space debris and environmental law is premature at this stage. At the last session of the Subcommittee it was agreed that the formulations in this respect as presented in the Chairman's package proposal should be followed. Again, my delegation would like to reiterate its position that time should be given to space scientists and practitioners in the field to come to terms with this

problem. It is being actively debated, and as has already been suggested, inter-sessional meetings could also be organized. Some controversial points do exist which merit discussion, but before legal experts are consulted and asked to put something in black and white, it is vital to have the requisite scientific input.

In conclusion, my delegation considers the results of the thirty-sixth session of the Legal Subcommittee to have been most successful. Positive results have emerged as concerns defining future prospects and the possible introduction of some interesting new items for the Subcommittee's agenda. The Subcommittee's report should be adopted and the draft resolution proposed should be forwarded to the General Assembly. The present session of the Committee is also achieving concrete results and we are very close to reaching an acceptable compromise on this revised text proposed by Germany. Sufficient time still remains today and on Monday for us to work on this and to achieve a positive outcome.

The CHAIRMAN: I now give the floor to the distinguished representative of China.

Mr. HUANG Huikang (China) *(interpretation from Chinese)*: I would like to thank you for giving my delegation the opportunity to take the floor again under this item. The Chinese delegation made a statement under agenda item 8 at yesterday's meeting; today we wish to refer to the draft proposal of the German delegation.

At its thirty-sixth session, the Legal Subcommittee held in-depth discussions on the draft working paper proposed by the German delegation and achieved some progress. The German delegation then prepared a revised proposal, but no decision was taken on that document by the Subcommittee. It is now up to COPUOS to deal with this issue. My delegation would like to draw the Committee's attention to annex 1 of the Subcommittee's report. In paragraph 67 it was stated as follows:

> "On the question of the GSO, the working group agreed to continue its consideration of the matter. The working group took note of the second revised text of the working paper submitted by Germany set out in annex 2 of the present report of the Subcommittee. The revised text might constitute the basis for the adoption of the draft resolution and the full agreement at the fortieth session of the Committee on the future consideration of the question of the GSO in the Legal Subcommittee."

In this respect my delegation observes that two problems exist. The first is the draft resolution itself. The second question relates to how the Legal Subcommittee will deal with the issue of the geostationary orbit.

The draft resolution put forward by the German delegation comprises two parts: the first relates to the method for further discussions on the geostationary orbit; the second part involves the draft resolution itself. Therefore it is my delegation's view that the two questions are interconnected yet different.

Concerning the resolution itself, most delegations agree that this draft resolution could constitute a basis for adoption by the Committee. Reaching consensus on this issue is within our grasp. As to how to continue consideration of the geostationary orbit, the German delegation had initially proposed that once the draft resolution was adopted, discussion on this item would be concluded. Since the majority of delegations did not agree with this proposal, the German delegation put forward a compromise and agreed that instead of termination of the discussion, suspension of the discussion could apply.

My delegation believes that there is a basic difference involved which concerns the functions of the Committee and the ITU, respectively, and to reach a consensus on this matter will take sometime. My delegation had therefore proposed that the two issues should be discussed separately. If consensus could be reached on the draft resolution itself, COPUOS would be in a position to adopt it. As concerns the possible review of consideration of the question of the geostationary orbit, the Legal Subcommittee should consider this further at its next session.

On the basis of the draft working paper submitted by Germany, amendments can be proposed in order to allow the adoption of this draft resolution by the Committee. My delegation reiterates this suggestion, which we hope will be supported by other delegations.

As concerns how best to address this issue and achieve optimum results, my delegation supports the suggestion made by the delegation of the Russian Federation to form a working group, either formal or informal. We hope COPUOS will reach a final decision on the draft resolution before the end of this session.

The CHAIRMAN: I now give the floor to the distinguished representative of Ecuador.

Mr. L. ARIZAGA (Ecuador) *(interpretation from Spanish)*: As other delegations have reiterated their

points of view, my delegation also has further comments to make under this agenda item.

One item on the Legal Subcommittee's agenda is that which concerns the definition and delimitation of outer space, and the geostationary orbit. Along with many other States, Ecuador is particularly interested in this subject and has played an active role in discussions on it. We have listened with great interest to the interventions of the Group of 77 and GRULAC, as well as those of many delegations who have reiterated that this subject should remain on the Subcommittee's agenda.

Many delegations, including those of Cuba, Ecuador and Chile, have been quite specific in their desire to retain this subject on the Subcommittee's agenda. It has been clearly stated that it should be neither eliminated nor suspended.

My delegation has examined carefully the draft resolution proposed by Germany and concluded that a certain amount of time is necessary to analyse the implications of the draft resolution. The compromise agreement reached must take account of the positions of all States, as is the custom in our Committee, so that a consensus decision may be taken. My delegation has been involved in discussions with other delegations, including that of Germany, on this subject; we are prepared to continue these discussions, either in the Committee itself or at the next session of the Legal Subcommittee. In its intervention, Ecuador stated that progress had been slow but had nevertheless been achieved. My delegation will continue to take part in such discussions, and would recommend that rather than form a working group, the Secretariat might provide a meeting room so that discussions may continue informally.

My delegation agrees with other delegations that the Committee should not try to rush proceedings to try and save time. We will continue to actively participate in what we hope will be constructive discussions on this important topic.

The CHAIRMAN: I now give the floor to the distinguished representative of the Republic of Korea.

Mr. SUNG JOO CHOI (Observer, Republic of Korea): My delegation expresses its appreciation for the report of the thirty-sixth session of the Legal Subcommittee, and notes with satisfaction the central role played by the Committee, since its establishment, in the codification process of outer space activities. As was witnessed concerning the protracted negotiations which led to the establishment of the Law of the Sea, the establishment of any new legal regime for outer space will require time and patience. This should not however deter us from our task.

Turning to the agenda of the Legal Subcommittee, my delegation firmly believes that the agenda should be enriched in order to allow the Subcommittee to maintain its inherent function of codifying outer space activities. We oppose any proposal to reduce the number of agenda items. Following the adoption of the Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interests of All States, taking into particular account the Needs of Developing Countries, there is only one substantial item which remains on the Subcommittee's agenda: the delimitation of outer space and utilization of the geostationary orbit.

These are the reasons why my delegation supports the addition of new items to the agenda. The Legal Subcommittee could start to discuss the issue of space debris while the Scientific and Technical Subcommittee continues with its work on this topic. This might provide a kind of synergy effect as concerns the issue. My delegation supports the proposal of the Czech Republic in this respect, as we fear that the issue of space debris could become a major global concern, and the Legal Subcommittee might neglect its efforts to establish the necessary legal order merely because it is felt it is premature to open discussion on it.

As concerns the geostationary orbit, my delegation agrees with other States that the adoption of the draft resolution proposed by Germany should in no way imply the deletion of this issue from the Subcommittee's agenda. We agree with the Colombian delegation that such a decision would be premature at this stage. As concerns the draft resolution proposed by Germany, my delegation supports the suggestion of the Russian Federation that an informal working group should be formed to try and reach a compromise solution during the current session.

The division of labour between the ITU and COPUOS in relation to the geostationary orbit should be split up according to the respective areas of competence of these two bodies. The inherent role of COPUOS is to set out in the legal regime and policy guidelines for outer space, and due account should be taken of this. My delegation does not support any initiative which could result in a weakening of the role of the Legal Subcommittee.

With regard to the definition and delimitation of outer space, my delegation proposes that the momentum initiated by the delegation of the Russian Federation should be maintained by continuing discussion within the Subcommittee, based on replies received to the questionnaire on possible legal issues with regard to aerospace objects.

The Legal Subcommittee is a core body of COPUOS, and one could say that the future success of the Committee depends to an extent on the revitalization of the Subcommittee's work. The Scientific and Technical Subcommittee should also play its part in assisting the Legal Subcommittee to fulfil its mandated role.

The CHAIRMAN: I now give the floor to the distinguished representative of Colombia.

Ms. A. BONILLA (Colombia) *(interpretation from Spanish)*: My delegation would like to comment on the document concerning the geostationary orbit which was submitted at the last session of the Legal Subcommittee.

The working paper presented by Colombia (document A/AC.105/C.2/L.200) contains the following recommendations. With regard to coordination procedures for the allocation of non-planned radio frequencies using geostationary satellites, countries committed to those processes should bear in mind that access to the geostationary orbit should be given on an equitable basis. When there are equal claims from developing and developed countries alike for access to the same or neighbouring orbital positions, then the developed country should make it possible, through the coordination procedure, for the developing country to have access to the orbital position and frequencies, with the minimum possible restrictions.

The working paper submitted by Colombia states that equitable access to the geostationary orbit is necessary, and that services should be based on the principle of "first come, first served". This regulation can give rise to difficulties in the coordination procedure, leading to costly operational problems, especially for developing countries. This will impede the access of such developing countries to that resource.

The first paragraph of the draft resolution proposed by the German delegation reiterates the general idea contained in Article 44 of the ITU Constitution. However, no mention is made of "the geographical situation of certain countries" which would be covered by this article. This therefore affects the notion of equitable access and is not useful for services not planned by the ITU which use geostationary orbits [which instead should be based on the principle of preference?]

My delegation has taken note of the statement by the Mexican delegation concerning efforts to intensify cooperation between ITU and the Legal Subcommittee, with a view to identifying new mechanisms for the coordination process and the localization of bands and frequencies not yet allocated by the ITU. The Legal Subcommittee is already working on this issue and should continue its work, particularly for the benefit of the developing countries. In this respect the principle of the ITU of "first come, first served" does not favour the claims made by developing countries for equitable access to the geostationary orbit.

The distinguished representative of Ecuador stated yesterday that a *sui generis* regime is needed to regulate the access to and use of the orbit. My delegation believes that the establishment of such a regime falls under the competence of the Legal Subcommittee, taking due account of the contributions of and work carried out by the ITU. Suspension of this item from the agenda of the Legal Subcommittee would be a retrogressive step in the analysis of this important subject. The methods of work proposed by COPUOS implies neither the elimination or suspension of any items from the Subcommittee's agenda.

My delegation welcomes the important work carried out by the German delegation in presenting the draft working paper. It has revived interest on the part of both the Committee, the Subcommittee and various delegations in seeking a solution to this problem, which is of concern to all Member States. Accordingly, we believe that discussion of this issue must continue with a view to its being considered in greater detail within the Legal Subcommittee.

The CHAIRMAN: I now give the floor to the distinguished representative of Peru.

Mr. L. CABRERA (Peru) *(interpretation from Spanish)*: My delegation would like to make a brief intervention under this item, particularly as concerns the geostationary orbit. We would like to reiterate that a decision be taken on the draft working paper submitted by the German delegation. Discussion of this issue has demonstrated that a diversity of views exist concerning the achievement of a consensus decision.

The working paper represents a proposal which contains interesting elements, but its discussion and

consideration should not be carried out too hastily. Neither should this item be removed from the agenda of the Legal Subcommittee. The ITU plays an important role in this sphere which relates exclusively to the technical aspects of the geostationary orbit; the Legal Subcommittee is competent to examine the legal and political aspects, and to agree on elements which define and establish the guidelines and policies which States must observe in the use of this limited natural resource.

My delegation therefore believes that if we take due account of the working paper submitted by the German delegation, in particular operative paragraph 2, what is stated is that in fact COPUOS should provide information to the ITU, on a periodic basis, on legal and political agreements reached in this Committee and its Subcommittees. This would help to guide the activities of the ITU concerning the technical aspects. This is a crucial point which should be duly taken into account.

In conclusion, my delegation endorses the views expressed by the Group of 77 on the same subject.

The CHAIRMAN: I now give the floor to the distinguished representative of Canada.

Mr. S. LESSARD (Canada): Over the past few years, and especially more recently, members of this Committee have devoted significant efforts to improving the working methods of the Committee and its Subcommittees. This culminated in the adoption, at the beginning of this session, of the Chairman's package proposal which was so ably developed by Ambassador Hohenfellner.

These reform measures show that an examination of ways and means to improve our efficiency should not be limited only to adjustments in duration of sessions or more efficient conduct of our deliberations. They should also include a periodic examination of the items on the agenda of the Committee and its Subcommittees, with a view to adding or deleting items as appropriate.

In this context, my delegation would like to recall the consideration by the Legal Subcommittee of ways and means to ensure equitable access to the geostationary orbit. As we all know, this issue has been under discussion for many years, with little apparent prospect for a solution based on consensus in the foreseeable future. In my delegation's view, this is not because resolving the diverse issues and interests involved is not possible. Rather, it is because there appears to be a fundamental disagreement on whether this Committee is the proper forum in which to address this particular issue of the legal status of the geostationary orbit and related matters of access, in light of the long-standing active involvement of the ITU in this context.

In a spirit of promoting the efficient and rational conduct of discussions on this and other important issues, my delegation believes the ITU is the proper forum for resolving the outstanding issues involved. The ITU has an established practice of dealing with the management of access to the geostationary orbit, and has demonstrated that it can be responsive to the need for enhanced equity of access through its adoption of planning in certain bands. ITU is not merely a technical body; it is a full-fledged United Nations agency with its own political organs, thus allowing for full discussion of relevant issues and consideration of all ideas, including those presented in the paper submitted by Colombia at the thirty-fifth session of the Legal Subcommittee.

In this context my delegation supports the draft resolution proposed by the German delegation at the last session of the Legal Subcommittee. The adoption of this text would ensure that this Committee's voice is heard concerning how more equitable access to the geostationary orbit can be ensured, while allowing the ITU to take note of this contribution in the implementation of its mandate. This would constitute real progress on the matter in terms of the work of the Legal Subcommittee. It could also allow suspension of discussion of this item in the Legal Subcommittee, with details of the modalities of such suspension to be further discussed and agreed upon by consensus.

My delegation continues to believe that any continuing discussion on this item in the Legal Subcommittee should be on the basis of an appropriate workplan. We believe that the above solution would preserve the right of COPUOS and its Legal Subcommittee to voice its opinion on the important issue of access to the geostationary orbit, while ensuring that the proper forum for the implementation of measures is used. In view of the very slow progress, if any, on this matter for too many years, my delegation is convinced that this is the best compromise.

We would therefore urge all delegations to work together and if possible to reach a compromise decision at this session of the Committee as concerns the proposal submitted by Germany. Several delegations have already indicated that this could be done, and Canada will actively participate in any further informal discussions on this issue.

Concerning other topics, my delegation welcomes the addition of a new item to the agenda of the Legal Subcommittee, "Review of the status of the five

international treaties on outer space". We are prepared to consider additional new items for possible inclusion on the basis of their relevance to the contemporary practice of space activities. Finally, at this point in time my delegation feels there is no need to reopen discussion on the Principles concerning nuclear power sources in outer space. However, examination must continue in the Scientific and Technical Subcommittee on the current state of science and best practices on this matter, leading to possible revision of the Principles at some future date

The CHAIRMAN: I now give the floor to the distinguished representative of Mexico.

Mr. V. ARRIAGA (Mexico) *(interpretation from Spanish)*: My delegation has already spoken on this item yesterday and stated its position concerning the working paper submitted by the German delegation. My delegation makes a distinction in the working paper between an introductory section, and the section which contains the draft resolution. We are in favour of maintaining the topic of the geostationary orbit on the Subcommittee's agenda, but at the same time we believe the draft resolution contains important elements to deal with the problem of the use of the radio frequency spectrum and the geostationary orbit.

Given the various proposals put forward today with regard to what action should be taken, my delegation endorses the proposal of the distinguished representative of Ecuador that informal consultations should take place with a view to reaching a solution.

The CHAIRMAN: I now give the floor to the distinguished representative of the Islamic Republic of Iran.

Mr. F. JAHEDI (Islamic Republic of Iran): My delegation's intervention on this agenda item supports the views expressed by the Group of 77. The geostationary orbit is an important issue and more substantive discussions are needed on it before any decision is taken. We therefore reiterate the recommendations of Ecuador, the Russian Federation and many other States that this item remain on the agenda of the Legal Subcommittee.

The CHAIRMAN: I now give the floor to the distinguished representative of the Czech Republic.

Mr. V. KOPAL (Czech Republic): My delegation appreciates this opportunity to take the floor on this agenda item for the second time. We have already given our observations on the report of the Legal Subcommittee, and I do not wish to repeat what was stated therein.

My delegation would like to refer to one specific point that was made yesterday. This morning the same observation was made by the delegation of the Russian Federation; this concerns our own suggestion to consider the possibility of including a new item on the agenda of the Legal Subcommittee entitled "Review of existing norms of international law applicable to space debris". The distinguished representative of the Russian Federation felt the inclusion of this item was premature at this point in time, as the Scientific and Technical Subcommittee has not concluded its discussion on this topic. A similar view was expressed yesterday by other delegations.

My delegation feels it is important to reiterate our position on this possible new item. Firstly, we greatly appreciate the work carried out in the Scientific and Technical Subcommittee on the issue of space debris; this work is indispensable, and we look forward to receiving both the report of the Subcommittee and the conclusions of these important discussions. However, there are several legal aspects of the problem of space debris which must be analysed and studied by the Legal Subcommittee.

In the informal background note which we submitted one year ago in the Legal Subcommittee, it was made abundantly clear exactly what questions should be addressed by legal experts. For example, in the 1967 Outer Space Treaty, the Liability Convention and the Registration Convention, we have certain definitions of the term "space objects". Therefore, does this definition apply to space debris or not? It is important to analyse this question and to find an answer to it. Do the provisions of the Outer Space Treaty, concerning the avoidance of harmful contamination of outer space and adverse changes in the environment of the Earth, apply to the problem of space debris? Again, this is a legal question. And should the protection of ownership of space objects and of their component parts – as again mentioned in the 1967 Outer Space Treaty and the 1968 Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space – be extended to cover space debris or not?

Another example: should liability for damage caused by space debris to a space object and/or its crew depend on the actual proof, as in the case of a collision of two space objects, in accordance with the wording of the 1972 Liability Convention? I could quote a series of questions such as this, and in fact these questions have been under consideration for many years in different international non-governmental forums. These are questions with serious legal implications, but it seems that this body is somewhat reluctant to deal with them.

And they are uestions which can be considered independently of the results of the work carried out by the Scientific and Technical Subcommittee.

This is the substance of my delegation's proposal for the new agenda item, and we would reiterate that consideration of such an item would not imply the drafting of new provisions, but would serve to clarify the issues involved and help to improve the interpretation and application of the existing norms of international space law. These issue have existed for several years and they must be addressed. It is our sincere hope that we are not forced into action due to some eventual accident in outer space, as happened in the past concerning other international legal instruments, such as the 1968 Rescue Agreement. Action in this respect was accelerated due to a serious accident which occurred, and the agreement was concluded in a very short period of time.

My delegation does not see why the Legal Subcommittee has such a limited agenda, which now contains only one or two substantive items. In comparison, the Scientific and Technical Subcommittee has some ten or eleven substantive items on its agenda which it too has been considering for some years now. Therefore the agenda of the Legal Subcommittee should be enriched to include a number of substantive items which should be discussed, without necessarily implying the conclusion of a further space treaty or set of principles. Such discussions should help to clarify the various situations and put forward proposals as to the interpretation and application of existing international legal instruments relating to space activities.

The CHAIRMAN: I now give the floor to the distinguished representative of France.

Mr. P. LOUET (France) *(interpretation from French)*: My delegation had not originally intended to make a statement on this item, which seems to be a matter of concern to many delegations. However, having followed the discussions it appears there may be certain misunderstandings, and my delegation would therefore like to reiterate its position on this important matter.

As has already been said, the Legal Subcommittee has been debating this issue for several years without having properly understood the true objectives of some delegations. This is because some of the views expressed are contrary to the texts and instruments which have been adopted and which are still in effect. The delegation of Colombia put forward a proposal which represented one way of reaching an acceptable solution. We would like to pay tribute to the ambassador of Colombia in this context; he is a renowned legal expert, and he has given us the necessary background to enable discussion on this item to proceed in a positive manner. My delegation regrets that he is not present here today, as he was able to differentiate between what States would like to have, and what was actually possible under the legal provisions.

On the basis of this discussion, the German delegation put forward its own proposal. There is thus now a proposal which addresses problems that have been debated for some length of time. My delegation feels there is considerable support for this proposal. Although some problems still remain for certain delegations, if a solution could be reached the text of this draft resolution could be adopted: one that it done, there is no reason to continue discussing it. The proposal has been revised in response to the concerns expressed by some delegations, and this should put an end to our debate on it.

However, if it is felt that the proposal by the German delegation does not resolve the problems, it should not be adopted and discussion on it should continue. It is a simple decision to take.

The delegation of the Russian Federation stated that certain delegations felt that discussion on the geostationary orbit should cease as it had been on-going for too long a period of time and the ITU is the competent body to deal with this issue. My delegation did not take this position; we stated that if the proposal is adopted, it follows that the concerns of most delegations would have been dealt with; that in itself would necessarily close discussion on the item.

In summary, my delegation did not put this proposal on the table. A text has been proposed; my delegation is not wholly in favour of this text as we feel it conflicts to an extent with the purview of the ITU. However, in a spirit of compromise we are ready to accept it. But we cannot support the position of accepting this text but still continuing with the debate. If the text is still unsatisfactory to some delegations and no consensus agreement can be reached, the text should be put aside and our discussions can then continue.

The CHAIRMAN: Are there any other delegations wishing to take the floor under this item? I see none.

We have heard some interesting suggestions and points of view on agenda item 8. Notwithstanding the debate which has taken place, it seems there is still a possibility to reach a solution on the text following consultations. Therefore, as suggested by various delegations, informal consultations will be held on agenda item 8 concerning the working paper submitted

by the German delegation. This will take place immediately after this meeting in Room C-0713. If necessary, these consultations can continue this afternoon.

The suggestion has also been made that, following the informal consultations, a working group be set up on agenda item 8. This working group could meet on Monday morning, 9 June. Delegations will have the opportunity to make statements in the plenary on Monday morning, and the working group would follow immediately afterwards. I hope these arrangements are satisfactory. I now give the floor to the distinguished representative of Ecuador.

Mr. L. ARIZAGA (Ecuador) *(interpretation from Spanish)*: My delegation welcomes your proposal to continue with informal consultations following the conclusion of this meeting. Secondly, concerning the setting up of a working group, my delegation feels that this decision should be taken after the results of the informal consultations are known. If necessary, a working group could be formed, but a decision on that should not be taken at this point in time.

The CHAIRMAN: This was in fact what I had stated: the informal consultations will take place following the adjournment of this session. On Monday morning, following the plenary meeting and based on the results of the informal consultations, if necessary a working group could be formed and could meet. But if it is not deemed necessary, there will not be a working group.

Having closed discussion on this item for the time being, we will now continue our discussion of agenda item 10. While noting that the distinguished representatives of Spain and Canada have requested continuation of the discussion of this agenda item on Monday, 9 June, I would like to open this item now to any delegations who wish to make a statement.

Spin-off benefits of space technology (cont.)

The CHAIRMAN: The first speaker on my list is the distinguished representative of China.

Ms. LIU Xiaohong (China) *(interpretation from Chinese)*: Space technology is a comprehensive engineering technology for the exploration, exploitation and utilization of outer space, and celestial bodies other than the Earth. It is one of the sciences and technologies among today's high technologies which have the greatest impact on modern society.

With rapid advances in space science, space technology and its applications are found more widely than ever in various fields of human production and life, with an impact unattainable by more traditional methods of production. Constant improvement of levels of space technology, expansion of its applications and the full realization of the spin-off benefits of space technology have become priority considerations in sustainable development strategies in various countries.

The Chinese Government attaches great importance to the development and use of space technology. It is currently applying it widely in such fields as machinery metallurgy, chemical industry, energy, materials, transportation, communication, education and medicine — all of which are yielding remarkable economic and social benefits. Space technology has also been applied in disaster prediction and estimation, geological prospecting, topographic mapping, crop growth and yield estimation, broadcasting, television and other areas.

Apart from the development of space technology and its applications, my Government also attaches considerable importance to the secondary development of space technology and the development of its space industry through peaceful uses of military technology and vigorous implementation of its conversion strategy. Conversion of space science and technology into actual productivity has yielded increasingly noticeable benefits. For example, transplantation or extension of single special technologies to other basic industries has had a significant impact on the development of those industries. This in turn has led to a better working environment, energy savings, productivity increases and scientific and technological progress.

My delegation would like to give an illustration of a current space technology and conversion programmes, their application in the national economy and their spin-off benefits in China.

As concerns conversion, the strong demand for space technology development has driven the development of electronics technology to higher levels in China. The present emergence of large-scale integrated circuitry and 100 million operations per second computers is closely linked to the needs of the space industry. At the same time, the transfer of space and military technology to non-space fields and civilian industries has helped to promote the application and development of soft science and technology in China.

To date, China has applied the experience of systems engineering management in space technology in

such fields as population studies, state price subsidies, and optimum design for national economic development. It has provided quantitative bases for national economic development and economic reforms through forecasts of future economic development trends using supercomputers. Software kits have been designed by the space industry by drawing on the experience of systems engineering management and through large-scale mathematical models and mixed calculational simulations. These have helped to solve power supply control and coordination problems in power grids in north-eastern China. Power supply there has thus been boosted by between 2 and 3 per cent.

Drawing on experience in systems engineering management, China's space industry has also developed night vision visual control systems for Qingdao and Dalian port authorities, bringing tangible economic benefits to port management.

In the area of disaster prediction and assessment, by using meteorological data from satellites, China has been able to accurately forecast heavy torrential rain in Sichuan, southern Shanxi, Liaoning, Jilin and other provinces, thus preventing huge losses. In the case of the torrential rain in Sichuan province and the dilemma of whether to proceed with flood diversion on the Jijiang River, analyses of satellite meteorological data provided the basis for a decision not to divert the flood. This avoided the flooding of 600 mu of farm land and the relocation of 400,000 people, and reduced losses by some 700 million Yuan.

With regard to broadcasting and communications, China has started TV and broadcasting satellite transmission from Beijing to every part of the country, and telephone satellite communication between Beijing and remote border provinces, as well as cities such as Tibet, Chengdu, Xinjiang and Lanzhou. What would one have required a 1 billion Yuan investment in conventional technology only cost 100 million Yuan, through the use of space technology, giving an investment ratio of 1:10.

As concerns transportation, the satellite rail traffic control system set up in China has shortened intervals between trains; instead of 8 to 9 minutes, it is now 3 to 4 minutes, with double carriage capacity. On the Beijing-Shanghai line alone, to build multiple tracks by conventional methods would cost 10.23 billion Yuan, whereas a train control system via satellite would cost only 1 billion Yuan.

Turning to the question of geological prospecting and topographic mapping, interpretation of a single satellite image allowed completion of a geological structural map of the Chaidamu Basin and other areas and discovered geographical faults missed by earlier geological surveys. This would have required nine man/years of a geological prospecting team. One hundred professionals, using satellite imagery in conjunction with aerial surveys, completed terrestrial and marine analyses of the whole country in only two years, and mapped farm land, forests, grasslands, water, population distribution and land use. A project of this magnitude would otherwise have involved some 100,000 people and cost 100 million Yuan.

Since 1986, as concerns agriculture and fisheries, China has been monitoring winter wheat growth in 11 northern provinces and cities by satellite. It has been able to forecast the total yield one to three months in advance with 95 per cent accuracy. The Hebei province has been able to accurately forecast crop yield by using satellites, and has saved 60 million Yuan on food transportation alone. By guiding fishing with meteorological satellite data, within a short space of some seven months the city of Qingdao saw the fish catch increase 4.46-fold for purse net, and by at least 28 per cent for single net over the same period as the previous year.

The above examples are but a few exampls of the practical applications of space technology in China, showing that application and transfer of space technology have wide-ranging and notable benefits for society as a whole. Research and development of space technology is therefore a common enterprise of humanity. Promotion of sustainable development in the field of outer space and expansion of the scope of space applications means that countries should increase cooperation. States must learn from and complement each other, thus avoiding unnecessary duplication and waste, and obtaining the maximum results from the limited resources of humanity.

To this end, China's space community is ready to strengthen cooperation with its counterparts in other countries in expanding the scope of space applications. My delegation hopes that the technologically advanced space-faring nations can help other countries, in particular the developing countries, to make greater contributions to improved quality of life and to further sustainable development for society as a whole.

The CHAIRMAN: The next speaker on my list is the distinguished representative of India.

Mr. G. NAIR (India): Space technology and its applications are multidisciplinary in nature. Developments in space technology are not merely the result of

the use of advances in several other fields, but are the impetus for such advances.

The demands of space projects in terms of miniaturization, automation, weight and power optimization, use of new materials and rigorous quality control techniques are very high, and these techniques have many spin-off benefits in other areas.

My delegation would like to tell the Committee about the status of developments in the Indian Space Programme regarding the promotion of spin-off benefits. The Indian Space Programme encourages the participation of industries in space projects and applications. Of the 227 technologies so far transferred to industries, 90 technologies pertain to products and systems used in direct space applications in the field of space communications, television broadcasting, meteorology and remote sensing applications. Spin-off products and services number 129, an even higher figure.

These spin-off products and services are spread over several disciplines, such as polymers and chemicals, electro-optic instruments, computer software, mechanical systems and electronic equipment. The knowhow is transferred on a promotional basis and industries are encouraged to update the technologies of these products through their own innovations. Several measures towards the promotion of spin-offs are being carried out, notably dissemination of pamphlets on the new technologies developed, publication of articles in professional and trade journals, exhibitions, organization of visits to research and development centres, market surveys and so on.

Another significant aspect of space technology applications is its potential to offer new opportunities for entrepreneurs and industries. Such spin-off potential is possible in both the social and commercial applications of space.

In the social fields, my delegation would like to quote the experience of a recent project undertaken in a Central Indian state, for the use of space communications and remote sensing. This project, the Jabhua Development Communications Project, is carried out in a predominantly tribal district, where the literacy rate is low. Programmes aimed at improving literacy, watershed development, family welfare and hygiene are telecast via the INSAT satellite to 150 villages where community direct television receiver sets are installed.

The novel feature in this experiment is the facility for interaction of the villages with experts elsewhere in the country through the talk-back facilities available at several major centres. The project aims to study feasibility and cost effectiveness of such technologies for rural development, and its spin-off benefits are the tremendous demand for generation of software which will prove effective in the location of application. That effort has to combine art and creativity with modern education, while at the same time aiming to preserve the high values of local culture.

Turning to the spin-offs in the commercial area, the potential for value added services in the field of remote sensing applications merits attention. In India over 50 entrepreneurs have been developed in the commercial sector, in order to promote and exploit the potential of remote sensing applications. These entrepreneurs are typically small but highly professional organizations. They fall under various categories in the chain of providing value added services. They could be the solution providers, service providers, promoters, facilitators, enablers or collaborators.

The application of space-based remote sensing data, combined with their traditional skills, could lead to market opportunities such as planning national parks, ground water prospecting, site evaluation for new projects, performance evaluation of irrigated command areas, digital terrain model applications, preparation of forest management plans, environmental impact analysis prior to initiating development projects, alignment of pipelines, surveys for new highway development, etc.

Continued cooperation in exchange of information as well as in the development of spin-off benefits could bring greater benefits from advances in space technology on a sustainable basis. My delegation appreciates the efforts of various space agencies in promoting such cooperation. In conclusion, a brochure on spin-offs from space is available for those delegates who are interested.

The CHAIRMAN: I now give the floor to the distinguished representative of Romania.

Mr. M.-I. PISO (Romania): My delegation would like to make a brief statement concerning the spin-off benefits of space.

As we have already stated, space programmes produce not only technical but also structural spin-off benefits which have influenced human society at the structural level. Space communications, global positioning systems and Earth observation systems have generated the infrastructure for the information highway. Space activities have offered a new method of

international cooperation, contributing to the setting up of global security and cooperation concepts.

Space programmes have also offered opportunities for multidisciplinary and interdisciplinary activities by bringing together projects and professionals from a wide range of interests and qualifications. This gives developing countries access to space, not only for its applications but also from the scientific and technical viewpoint.

In this context, my delegation would like to recall that the report of the thirty-ninth session of the Committee stated that in promoting spin-off benefits and effective space applications, it was important that the capacity to understand the technology and to develop it were considered to be of primary importance. The Committee agreed that developing countries should enhance their potential for basic and advanced research in order to promote capacity building for space applications, and to benefit from spin-offs of space technology.

Regarding the promotion of basic and advanced space research by those countries which are developing their space potential, my delegation believes it is important that these countries are able to develop independent research programmes. This would enable them, firstly, to upgrade their capabilities to reach the standard international level with at a pace which they themselves would determine, and secondly, to make optimum use of their indigenous human and infrastructural capacity.

My delegation would appreciate it if a reference to the goals set out in this statement could be included in the final report of the Committee.

The CHAIRMAN: As I have mentioned, discussion of agenda item 10 will continue on Monday in accordance with the requests of the distinguished representatives of Spain and Canada. If there are any other delegations wishing to speak on this item, they may do so now. I give the floor to the distinguished representative of Canada.

Mr. S. LESSARD (Canada): My delegation has a simple clarification to make: it is possible that we may be in a position to make our statement on this agenda item this afternoon, but it may also be Monday.

The CHAIRMAN: Our time this afternoon will be devoted to informal consultations, and therefore the continuation of our discussion on agenda item 10 will be on Monday morning.

Implementation of the recommendations of UNISPACE 82, as well as Preparations by the Preparatory Committee for the United Nations Third UNISPACE Conference (cont.)

The CHAIRMAN: I understand that, as a result of the informal consultations held concerning agenda item 9(b), a draft report has just been circulated, "Report of the Preparatory Committee for the Third United Nations UNISPACE Conference". I am pleased to note that a text has been agreed upon in the informal consultations. This will be taken up in the draft report paragraph by paragraph on Monday. Therefore discussion of agenda item 9(b) is closed for the time being unless there are delegations wishing to speak.

I give the floor to the distinguished representative of Morocco.

Ms. S. OTMANI (Morocco) *(interpretation from French)*: As concerns the draft report, my delegation would like the following paragraph to be added [continues in English]:

> "The Secretariat and Member States should take steps to encourage the participation of high-level decision makers in the Conference, particularly from developing countries which could benefit from the use of space technology in their economic and social development programmes."

(interpretation) My delegation had emphasized this kind of participation in the course of the general debate, as we feel it would be beneficial to all States, and this is why we would request that this paragraph be included in the draft report.

The CHAIRMAN: We will take this matter up on Monday when we begin our consideration of the draft report on Monday, and try to incorporate the paragraph at that time. I give the floor to the distinguished representative of Ecuador.

Mr. L. ARIZAGA (Ecuador) *(interpretation from Spanish)*: My delegation welcomes the draft report which has just been circulated. We have some comments on document A/AC.105/1997/CRP.4/Rev.1 under (12), which refers to promotion of international cooperation.

My delegation appreciates the acceptance of the proposal on this subject. We would merely like to request that the exact language used in the annotated provisional agenda for UNISPACE III be added.

The CHAIRMAN: The wording will be taken from the annotated provisional agenda, as you have suggested.

As a draft text has been agreed, we will close our discussion on this item for the present and continue with our discussion of agenda item 11.

Other matters (cont.)

The CHAIRMAN: There are no delegations on the list of speakers for this item. Can I take it that we can therefore conclude our discussion on this item? *It is so decided.*

I will shortly adjourn this meeting of the Committee, but before doing so I would like to clarify our schedule of work for the rest of today and Monday. Immediately following this meeting, informal consultations will take place on agenda item 8, concerning the working paper submitted by the German delegation, and these consultations will continue this afternoon. This meeting will be held in Room C-0713.

Agenda items 8 and 10 will remain open for discussion on Monday. Based on the results of the informal consultations, a working group may be formed if necessary to continue discussion of agenda item 8. This also allows sufficient time today to enable the Secretariat to start to prepare the draft report of the Committee.

On Monday morning we will open our meeting with the special presentation by the delegations of Spain and Canada under agenda item 10. The results of the informal consultations on agenda item 8 will be announced, and if necessary, a working group will be formed. Delegations will then be given the opportunity to make statements in the plenary. Following this, the Committee will take up its consideration of the draft report.

As in previous sessions, we will first consider the draft at an informal session. Once that consideration is complete, the report will be adopted in the plenary session.

I now give the floor to the distinguished representative of the Russian Federation.

Mr. P. DZOUBENKO (Russian Federation) *(interpretation from Russian)*: My delegation may wish to speak on agenda item 10 on Monday. Bearing in mind that the results of today's informal consultations may not be conclusive, it may be necessary to convene a formal working group on Monday to consider the draft proposal submitted by the German delegation.

The CHAIRMAN: If there are any delegations wishing to speak on agenda item 10 on Monday, this item will be open. Based on the results of the informal consultations under agenda item 8, a working group may be formed if necessary on Monday. I now give the floor to the distinguished representative of the United States.

Mr. K. HODGKINS (United States of America): As concerns a clarification on document A/AC.105/1997/CRP.4, one delegation has suggested an addition to that document. My delegation is a little confused as to what documents the Committee itself is adopting, and what documents are for information purposes only. We would request some clarification from the Secretariat as concerns document A/AC.105/1997/CRP.4 in relation to the draft report of the Preparatory Committee.

The CHAIRMAN: I will ask Dr. Jasentuliyana to provide a clarification on this point.

Mr. N. JASENTULIYANA (Director, Office for Outer Space Affairs; Deputy Director-General, United Nations Office at Vienna): Document A/AC.105/1997/CRP.4 was discussed during informal consultations. It is my understanding that document A/AC.105/1997/CRP.4/Rev.1 reflects those discussions in the Committee which were agreed upon at the informal consultations. This document is also referred to in the draft report of the Preparatory Committee.

The delegation of Ecuador mentioned that in document A/AC.105/1997/CRP.4/Rev.1, the text does not match that which was used in the annotated provisional agenda; that delegation would like to see the latter text included. It is my understanding that document A/AC.105/1997.CRP.4/Rev.1 is referred to in the text of the draft report already agreed upon informally, as outlined in paragraph 8. This text will be modified to take into account the request of the delegation of Ecuador.

The draft text agreed upon during the informal consultations will then be taken up on Monday, when it will be available in all languages.

The CHAIRMAN: I now give the floor to the distinguished representative of the United States.

Mr. K. HODGKINS (United States of America): It was my delegation's understanding that A/AC.105/1997/CRP.4/Rev.1 had been agreed to in the

informal consultations. Perhaps what is outlined is just a technical adjustment, but my delegation would need to look at the actual text. We would therefore like to reserve our opinion on the addition proposed by the delegation of Ecuador until we have had the opportunity to look at the text itself.

Mr. N. JASENTULIYANA (Director, Office for Outer Space Affairs; Deputy Director-General, United Nations Office at Vienna): It is my understanding that this draft report, in all languages, as well as document A/AC.105/1997/CRP.4/Rev.1 referred to in the draft report, will be taken up for discussion on Monday. Any amendments or any matters which require investigation will be taken up by delegations on Monday. At present, this is only an informally agreed upon text.

The suggestion by the delegation of Ecuador is to include the actual text agreed upon during the meeting of the Advisory Committee, which did not appear to present a problem. In any event, this can be finalized on Monday.

The CHAIRMAN: I now give the floor to the distinguished representative of Japan.

Ms. K. KATO (Japan): My delegation does not wish to prolong the discussion, but we would like to draw the Committee's attention to the following. From yesterday's informal consultations, my delegation's understanding was that a new document, No. 12, was introduced instead of the notes.

As we understand it, the proposal by Ecuador is to reflect the two paragraphs of agenda item 7(d) in the text. If this proposal is reflected in the report, there might be a duplication of the second paragraph and the notes contained in document A/AC.105/1997/CRP.4/Rev.1.

The CHAIRMAN: I now give the floor to the distinguished representative of Mexico.

Mr. V. ARRIAGA (Mexico) *(interpretation from Spanish)*: My delegation too does not wish to prolong the discussion, but it would seem that in order to assist in guiding different delegations as to what the proposal by Ecuador represents, perhaps through the Chair the delegation of Ecuador could be requested to state specifically which paragraph is referred to in document A/AC.105/672.

My delegation believes that this document contains important elements which should be incorporated in document A/AC.105/1997/CRP.4/Rev.1.

The CHAIRMAN: I now give the floor to the distinguished representative of Ecuador.

Mr. L. ARIZAGA (Ecuador) *(interpretation from Spanish)*: The point my delegation wishes to make is that item 7(d) of the annotated provisional agenda for UNISPACE III refers to the promotion of international cooperation. The language which is used in document A/AC.105/1997/CRP.4/Rev.1 reflects the first sentence of item 7(d) but not the second sentence, which reads that there would be a review of the current status of the law of outer space, including ways and means of promoting wider adherence to the existing international space treaties and principles.

If the language of this second sentence was included, as approved by all delegations during the Advisory Committee, then the note in document A/AC.105/1997/CRP.4/Rev.1 would be withdrawn. This is the point which has been made by the distinguished representative of Japan. This was our only point, which we hope will not cause any major problems as it is a text which has already been adopted.

The CHAIRMAN: I would like to suggest that interested delegations should consult with each other to agree upon the text. In this connection, I would request the distinguished representative of Ecuador to contact those delegations who have made statements to ensure that we have a text which is agreed by all parties.

There being no further requests for the floor, the Committee is adjourned until 10 a.m. on Monday morning.

The sitting adjourned at 12.30 p.m.

Committee on the Peaceful Uses of Outer Space

Unedited transcript

441st Meeting
Monday, 9 June 1997, 10 a.m.
Vienna

Chairman: Mr. RAO (India)

The meeting was called to order at 10.15 a.m.

The CHAIRMAN: I now declare open the 441st meeting of the Committee on the Peaceful Uses of Outer Space.

This morning we will continue and conclude our consideration of agenda item 10, "Spin-off benefits of space technology". That will leave us with only agenda item 8, and we will continue our consideration of this agenda item, "Report of the Legal Subcommittee", once discussion on agenda item 10 is concluded. At that time the results of the informal consultations which took place on Friday afternoon will be announced. Depending on those results, we will either conclude our consideration of agenda item 8 this morning, convene a working group on that item, or continue with the informal consultations.

Time permitting and depending on the results of the work on agenda item 8, we will also begin, in an informal session, our paragraph-by-paragraph consideration of the draft report of the Committee. This afternoon, the Committee will either continue its consideration of agenda item 8 or continue its paragraph-by-paragraph consideration of the draft report in an informal meeting.

Spin-off benefits of space technology (cont.)

The CHAIRMAN: I have several speakers on my list, and the first speaker is the distinguished representative of Canada.

Mr. W. LARSON (Canada): I would like to make a brief statement regarding the importance of spin-off benefits in the Canadian space programme, and the results achieved.

Activity in space to explore the solar system and satisfy humanity's thirst for knowledge, although important, should be accompanied by space programmes and activities to help solve problems on Earth and address human needs. Canada has long attempted to generate spin-off applications and technologies from its activities in space. In some cases, our programmes were chosen because the technologies required to implement them could be transferred into other applications and uses with spectacular results. In other cases, our activities in space have generated spin-off technologies and benefits that we could not possibly have anticipated, and examples of these two kinds of spin-offs are as follows.

In the field of robotics, Canada has employed the technologies and capabilities developed for its space robotics programme for terrestrial uses and applications in such areas as nuclear waste facility clean-up; mining; automated robotic gasolene pumps; selective fertilizer and chemical spray equipment for agriculture; repair of hydroelectric lines; force-reflecting devices to assist the blind in using a computer mouse; telemedicine; industrial assembly; and flight simulators.

In communications, technologies developed for Canada's telecommunication satellites have been applied to education programmes for remote schools; telemedicine; remote Internet access; video conferencing; and entertainment broadcasting.

As far as remote technologies are concerned, technologies originally meant for ice monitoring have been adapted, through Canada's RADARSAT programme, and applied to a host of other uses including crop monitoring; ship navigation; water management; disaster monitoring; mineral exploration; and land use mapping.

In the field of space science, some of the specific spin-off technologies developed in Canada include data relay systems for remote meteorological measurements and avionics; communications terminals and traffic monitors; telemetry, command and control systems;

optical character readers; artificial vision systems; radiation dosimeters for dose control in cancer therapy; noise sources and instrument calibration; high-temperature battery design; infrared detectors; remote sensing using CCD-based images; mass spectrometers for trade gas analysis, detection of explosives, drugs and diseases and identification of different types of forests; power line monitors; and corrosion-resistant coatings. This list is by no means complete.

We live in an era of environmental degradation and severe economic hardship for many peoples. The possibility exists that the Earth's capacity to provide for the needs of its creatures may soon be exhausted. But we also live in an era of unparalleled opportunity and promise.

Today we are witnessing the emergence of technologies and capabilities that have tremendous potential to solve some of the problems we face and alleviate some of the hardships which many people bear. This forms a major part of the reason for human activity in space, and also a major part of the reason for our presence here today.

The CHAIRMAN: I now give the floor to the distinguished representative of Spain.

? ? ? ? ? ? (Spain) *(interpretation from Spanish)*: When my delegation addressed the meeting last week, we stated that an expert from the National Institute of Aerospace Technology in Spain would be here today to address the meeting concerning the MINISAT 01 launch in Spain. It was launched on 21 April from a Pegasus launcher over the island of Gran Canaria. Our expert will show the meeting a video which we hope will be of interest.

Mr. A. VRECH (Spain) *(interpretation from Spanish)*: I welcome this opportunity to address you on the MINISAT 01 programme.

I would like to give you some background on how this was achieved, our expectations for the future, the rest of the programme and what we hope to achieve through this type of satellite. This photograph is not too clear, but the MINISAT is visible on the launcher. I will also give some information on the innovations in the launching of this satellite, which has many advantages for other countries and organizations.

I will give a brief introduction to the MINISATs, and explain why they are called mini-satellites and what our expectations are. I will then proceed to the MINISAT programme itself: MINISAT 01, its mission, its subsistence, the land segment launching. I will then show two videos which I hope will be rather more entertaining than my statement!

Mini-satellites are small satellites which are low-cost, simple and rapidly assembled. This is due to the technological progress which has been achieved, miniaturization, reduction of [redundancies?], new philosophies in design documentation and trials. An operational satellite can therefore be built in less time and for less money than before. This enables other States and organizations which have smaller budgets to join the space race.

The MINISAT programme which was developed in Spain began with the idea of seeing if it were possible to design, manufacture, integrate, test and launch a satellite from Spain. This was the initial idea, and we managed to achieve it through training of staff and with infrastructures which allowed us to make further progress and manufacture more satellites. MINISAT is a reusable, modular platform so that with what we have already developed and what is already in flight now, other types of satellites can be mounted in the MINISAT series. These include series 0, which are scientific satellites, series 1, Earth observation, and series 2, communication.

From MINISAT 01, it is possible to have Earth observation, which is currently under study, as well as communications. I will now show a MINISAT video. Due to technical difficulties it has not been possible to provide the written text for delegates. The video is actually in Spanish but I will be giving a commentary to accompany it. Afterwards I will give an explanation which I hope will further clarify this. I think it will prove helpful for you to see pictures of what I will subsequently be explaining.

(video presentation) This shows the advantages for daily life which can be derived from outer space and its applications. To date, it has only been the major space-faring nations or organizations which have been able to achieve this. This is the MINISAT programme. At the national level, we developed MINISAT 01 through our research plan with a scientific mission to enable both Spanish scientists as well as those from other nations can put their experiments into orbit.

This gives scientists the possibility of not having too long to wait for international missions. The average time for a standard mission is ten years, and with the current rapid advance in technology, this becomes virtually meaningless and outdated by the time it is achieved. This is a problem of global dimensions. These pictures show a Spanish construction establishment; it is

possible to see a new generation of spacecraft which are smaller and which cost less to produce. Thanks to new technology, we are able to design and manufacture at a lower cost and much more rapidly than in the past.

Technology can now be reused for other missions; technology is modular and the modules have standard interfaces to enable them to be linked up to other equipment, with resultant savings in costs. We hope to have a full system of design, manufacture, integration, tests and launching. Many people have been trained who previously had no experience in the field of space. MINISAT was constructed by Spanish industry, and a number of companies took part in its development and manufacture. Tests were carried out on the satellite, again carried out entirely in Spain — vibration, electric and environmental tests which were all carried out as required.

In October 1996, two years after the start of preparations, the unit was ready. The complete system comprises not only satellites: the land unit and platform are equally important. It has two modules, the service module and the payload. Later on, I will explain what each module contains and what the missions and tasks involve. For the service module, various payloads can be taken on board so that the mission is more rapid and even cheaper.

This shows you the station at Las Palomas, in the Canary Islands, which is used for monitoring. INTA has its control centre in Madrid and the data processing unit is also in Madrid. The third segment is the launcher, and I will be showing a separate video of the launcher itself, which is the Pegasus launcher. It is a special launcher which is carried by an aircraft to a specific altitude; I will be giving further details shortly.

This shows the launch, but I would prefer not to go into details on it right now as this is not the MINISAT 01 launch. I will be showing you the full video of the MINISAT 01 launch, which is only some five minutes long. This is a launcher with wings, and with air support so that the fuel requirement is lower.

I will stop the video now, as next we will come to the experiments which have been carried out, and I would like to give you some explanations beforehand. This is a scientific mission of MINISAT 01, and it is scientific experiments which are carried on board. There are three experiments which involve INTA, universities and other scientific institutes from around the world, in an endeavour to cooperate with various countries.

The experiment EURD, the first, is an experiment carried out by INTA at the University of California in Berkeley. It looks at measures of radiation in orbit, which is not possible from Earth. Important scientific measurements are taken; there is a theory that says that the obscure mass of the universe which is not visible is made up of neutrons which decompose and follow the same band. If the radiation band can be detected by MINISAT 01, it can be demonstrated that these neutrons exist and that there is a mass which cannot be observed.

The second experiment, [ALEGRE?], is in two parts. Firstly, it tests new gamma-ray detectors in space and gamma mapping of different sources which hitherto have not been fully examined. Spanish universities are working on this experiment in collaboration with various British universities.

CPLM is from the Polytechnic of Madrid; its liquid performance in space is important, particularly if we hope to have space stations outside the Earth's atmosphere in zero gravity. It is thus important to have data available on liquid behaviour for the elimination of waste and various other aspects.

The final experiment is not a scientific one as such; this one comprises solar panels with regulated velocity. These experiments lead us to set certain parameters for the mission, such as different degrees of orbit inclination and altitude.

[return to video presentation] This shows the first experiment, the EURD, and its deployment. CPLM is just a box. The third one is a complex one; a [stellar?] sensor for clear positioning. This latter experiment had the most participants made up into various teams.

Spanish industry has shown that it can run a full space programme from start to finish with complete success. The MINISAT is a new concept, a new instrument which can be used by governments and institutions, since the budget is approximately one-tenth of that of conventional satellites. The preparation time is also shorter, approximately two years. Thanks to these satellites it is possible to bring them closer to those who previously have not been able to benefit from their use.

I will now give you a general outline of the features of the satellite. It is a mini-satellite. It has folding panels, 240 Watts, stabilization on three axes with a three-degree error, which is perfectly acceptable for this mission. It has a 32 M-bit memory, two transmission speeds, and it can be programmed — which is an important factor as it is only within sight five times a day

for 10 minutes each time, and the rest of the time it is working from the programme.

The sub-systems comprising the platform are the general ones which form part of any satellite, with a structure for transmission of load maintaining all the equipment in place. It has to withstand the stress, especially under launch. For the solar panels a simple but critical mechanism is used: without these sufficient energy would not be generated. The satellite is maintained within the necessary margins of temperature, both active and passive — active being the heating units, and passive being the radiators and thermal control, which is the white cover seen here. The white cover reflects the Sun's rays and maintains the temperature within the necessary margins.

Altitude control is a critical issue; it has to be maintained within a certain band, which is achieved with the solar panels pointing towards the Sun initially. The payload is in the opposite position, with no Sun rays on it, otherwise the mission would be lost. Thus the position is very important and has to be maintained at all times. With the three axes we are able to do this, by using sensors and an [inertia wheel?] that maintains it in the correct position, and then there is the software that goes in the onboard computer for control purposes.

The onboard computer is a 386; there are very few 386 computers in outer space, and this is one of the few. The other is RADARSAT, referred to earlier by the representative of Canada. This is where the onboard software is used to respond to commands from the Earth and to memorize telemetrics and other scientific data for subsequent downloading. The power system is a [Nicad?] battery, for use when there is no Sun on the solar panels.

As far as communications are concerned, for receiving control commands from Earth and sending the necessary signals to position the satellite, a transponder with two S-band antennas is used. Two signals are used, a low velocity one and a high velocity one for scientific data transmission.

If delegates have any questions on technical aspects, I will be happy to answer them later.

The land station is in Las Palomas, Gran Canaria. There are two antennae, one 5 metres and the other 15 metres, the latter being a reserve. All the equipment necessary for downloading data is available, and for following the satellite whenever it happens to pass overhead. The INTA control centre in Madrid is where the data are processed; they are then sent to LAEFF, processed, and forwarded to other universities and research centres. Everything is linked up from point to point for speed of data transmission.

The last segment of the system is the launcher. It is a Pegasus launcher and represents an innovative method because it is launched from an aircraft in flight. This way there is no problem of the lift-off phase from Earth. It is a dedicated launcher for mini-satellites and offers the advantage that since it is already on an aircraft, the launcher can be taken wherever it is needed. In this particular case, Spain decided to launch MINISAT 01 from Western Europe; both the plane and the launcher went to INTA, and in this way the launcher can be taken to the satellite, rather than vice versa.

I will show you a short video of the launch itself. What you will see is direct taping during the launch. The aircraft carrying the Pegasus is a Lockheed 1011, and two Spanish air force F-18s are following it with cameras in order to film it. You can see the Lockheed 1011 in flight with the launcher on its underneath. When it reaches the precise point, and the last test has been carried out on the wings to make sure that they are working properly, then it detaches. There is a free-drop period of some 5 seconds, and then it lifts off.

This has been filmed from a camera on the launcher as well as from the ground (from Gran Canaria). An F-18 also tried to take film following the satellite, but of course it could not catch up with it! I was in Gran Canaria and was able to see it rising up. Then there is the end of the first phase, with separation, which you are able to see, with the coast of Africa in the background. The second phase has started and is continuing. The launch is monitored at all times to ensure that it stays within the margins; if it should go outside the margins, it would be destroyed.

At this point we are outside the Earth's atmosphere, which you can see from the colour. The second phase is about to finish, and then there is free flight for a certain period of time, followed by separation. This shows the third phase, and you can see the satellite itself. You can see South America, the African coast and the path of the satellite. After the third stage separation, we were able to see it disappearing on the horizon, and then from radar on the island of Aruba it was noted that separation did take place after the third stage.

Finally, this shows the orbit of MINISAT 01 over the Earth. Five passages each day are viewed from the Gran Canaria station at Las Palomas, with a 28° inclination. If it had been launched in the usual way, in the same direction as the Earth, the aircraft would have to have either been taken a long way away or launched

on the spot, which would have been virtually impossible. It therefore had to be launched in a westerly direction, against the movement of the Earth.

In the six weeks which have since elapsed, tests have been carried out in orbit. Everything has worked perfectly, and we are finishing off the calibration of experiments so that the scientific results will shortly be available. Therefore we have full and successful operation of MINISAT 01 in space. We have shown that it is possible to build mini-satellites and offer them to those who are interested. At present, we are defining MINISAT [114?] Earth observation in cooperation with Chile, and looking at development prospects for MINISAT 02, for scientific purposes.

In conclusion, it is evident that mini-satellites have proved to be a viable option for both countries and organizations who do not have large budgets for space activity. These are small satellites but they can perform significant work. They can carry out the same functions as larger satellites with the correct division of tasks. If there are any questions I will be happy to answer them.

[Unidentified speaker]: Why was it launched from 11,000 meters? [rest of question inaudible]

Mr. A. URECH (Spain) *(interpretation from Spanish)*: This was due to the problem of the weight of the mass of the launcher; it is very heavy and the aircraft could not take it high enough with the necessary security. Therefore from 10,000 or 11,000 meters, that was sufficiently high to ensure that the aircraft had sufficient velocity to launch it upwards.

[Unidentified speaker] *(interpretation)*: What is the time of active existence of the satellite? [in English] How many years does the transponder live for?

Mr. A. URECH (Spain) *(interpretation from Spanish)*: The mission is calculated to last for two or three years, which is the requirement necessary for the two experiments. It is the time within which we can guarantee that the experiments have the necessary time to allow them to be completed. Therefore the satellite was calculated for two years, with a margin going up to three years of active life. Our idea is that it would probably last longer, but in principle, it is three years' active life for the satellite.

The CHAIRMAN: I would like to thank the distinguished representative of Spain for his presentation. I now give the floor to the distinguished representative of the ISPRS.

Mr. J. TRINDER (Observer, International Society for Photogrammetry and Remote Sensing (ISPRS)): The ISPRS appreciates this opportunity to participate in the fortieth session of the Committee, particularly in relation to items 7, 9 and 10 of the agenda.

As Secretary General of the ISPRS, I would like to convey the best wishes of its President and Council, and to thank Dr. Jasentuliyana and the Office for Outer Space Affairs for their dedication and hard work.

The ISPRS is a non-governmental international organization devoted to the development of international cooperation for the advancement of photogrammetry and remote sensing and their applications. It is composed of 99 member organizations, six associate members from countries around the world (which are usually national professional societies), seven active regional member organizations, which represent Europe, Asia, Africa, the Americas, Australia and Oceania, and 35 sustaining members representing corporations and research institutions.

Originally established in 1910, ISPRS is the oldest international organization in the field of photogrammetry, remote sensing and geographic information systems.

I would like to report on recent developments in the Society, including the willingness of ISPRS to participate in education and training programmes for UNISPACE III, the signing of a Memorandum of Understanding between the Office for Outer Space Affairs and the ISPRS, and the support of ISPRS for a further conference on spin-off benefits of space exploration for developing countries.

The President of ISPRS, Mr. Lawrence [Fritz? Finch?], made a commitment during the meeting of the Scientific and Technical Subcommittee in February 1997 to provide education and training programmes in remote sensing and GIS for UNISPACE III. I would like to give you some information on plans for the development of education and training programmes for developing countries.

Following the eighteenth ISPRS Congress, held in Vienna last year, the General Assembly agreed to the formation of a task force in education opportunities, to be headed by Mr. [Marcio Bobasa?], Chairman of IMPI in Brazil. The task force has responsibility for the development of ISPRS-sponsored education and training programmes for developing countries. The strategies developed include the documentation of available training programmes in remote sensing and GIS,

cooperation with national members for the selection of candidates for the courses, and the presentation of courses by selected course authorities.

A pilot programme is planned for the Latin American centres which are funded by Brazil and Mexico, as part of the international course in remote sensing, in 1998. These strategies are consistent with the commitment of ISPRS to present a programme of training courses for UNISPACE III.

On 25 April 1997 a Memorandum of Understanding was signed between the Office for Outer Space Affairs and ISPRS. In summary, the terms of this MOU commits both parties to promote and conduct activities of mutual interest in the field of United Nations space applications. The parties jointly aim to sponsor an event annually, jointly coordinate schedules, events, topics and/or specialist needs in the area of planning activities, jointly seek financial support and identify specialists and lecturers for United Nations events which require photogrammetric, remote sensing and GIS expertise, and that ISPRS should incorporate formal opportunities within the framework of the Programme on Space Applications to include in the quadrennial ISPRS Congress and the appropriate ISPRS commission, symposia and working group activities.

It also states that the ISPRS should be requested to provide scientific and technological expertise through reviews, evaluations and recommendations on space-related matters concerning remote-sensing. There are no financial implications in this MOU for either the United Nations or the ISPRS. The Society welcomes the signing of this MOU and will do all within its resources to ensure that the terms of it are fulfilled.

The second United Nations/ESA conference on spin-off benefits of space exploration is being proposed by the Office of Outer Space Affairs, through the Expert on Space Applications, Dr. Abiodun. ISPRS supports these efforts to programme such conference, and within the terms of the aforementioned MOU, will cooperation in an appropriate manner.

I would like to draw attention to some new developments in remote sensing which should be of interest to the Committee. These include the emergence of new high special-resolution remote sensing satellites that will become available within the next year or so; the development to the operational stage of digital photogrammetry based on digitized photography and remote sensing images; automatic digital terrain model generation, and photo production. This has resulted in the integration of digital technology with GIS for data acquisition, processing and management.

There is a growing demand for rapid, reliable and automated extraction and updating of GIS data from digital images. Substantial progress has been achieved, and there are a number of projects on automatic and semi-automatic road and building extraction. Developments in [inaudible word] methods use radar data to determine high-accuracy digital terrain model data from space. Spectral and radiometric studies and measurements to better understand the characteristics of reflected electromagnetic radiation recorded by remote sensing satellites have been developed.

There is a broad range of applications of remote sensing data for renewable resources, resource and environmental monitoring, terrestrial ecosystems, desertification and land degradation and human settlements. A better understanding has been reached of the characteristics of radar images and the relationships between the nature of terrain features and the characteristics of radar propagation.

All these developments demonstrate the expansion in technologies for Earth observation and the information that can be extracted from images by intelligent processing systems for understanding and monitoring the environment. They raise issues which are appropriate for consideration by COPUOS — for example, the increasing public availability of high-resolution data from space will influence views of States on non-discriminatory access to these data. Potential users of this data will require the knowledge and technology to enable them to take full advantage of it, which will require an intensification of efforts in education and training in remote sensing. Facilities will also need to be available to process the data. Long-term international strategies should be considered for collaboration in the area of remote sensing to include the coordination of programmes in remote sensing. This will thus reduce the duplication of efforts in the development of satellite systems by many countries.

I greatly appreciate this opportunity to make this report and share the views of the ISPRS, and would like to offer ISPRS activities as a contribution to the successful achievements of COPUOS.

The CHAIRMAN: Are there any other delegations wishing to agenda this agenda item? I see none. We have thus concluded our consideration of agenda item 10. We will now continue our consideration of agenda item 8.

Report of the Legal Subcommittee (cont.)

The CHAIRMAN: As you are aware, at the conclusion of our consideration of this item last Friday, 6 June, it was decided that further informal consultations on the working paper submitted by Germany would take place. I would therefore like to give the floor to the distinguished representative of Germany to report on the results of these consultations. Following this report, we will then have an exchange of views on this subject.

Mr. G. FULDA (Germany): As I announced in my first statement under this agenda item, I had to ask for the floor again in order to present the results of the informal consultations held last Friday. Some 20 delegations participated in these consultations, which lasted until 6.15 p.m. I mention this as it shows the great interest of many delegations to achieve a positive result.

The discussion covered all elements of the draft resolution, concentrating on possible amendments with regard to the legal basis of this initiative and as concerns the relationship between COPUOS and the ITU. Two or three possible changes were identified which could have found consensus, subject however to an overall agreement with regard to the text as a whole. Unfortunately, such an overall agreement could not be reached.

Divergencies remained over three issues. First, some delegations insisted on the deletion of one of the preambular paragraphs which stated that the geostationary orbit is part of outer space and as such is governed by the Outer Space Treaty. Other delegations were not prepared to accept a resolution which did not include such a reference.

Secondly, controversies remained over the character of ITU and the relationship between it and COPUOS. Whether the ITU should be regarded as a mere technical agency not dealing with general political or legal issues, or whether the ITU itself is competent to solve all questions concerning access to the geostationary orbit, remained an open question. The respective text in the draft resolution could have been amended with an addition which referred to the competence of the ITU in general terms, thus bridging the gap between the divergent views. However, the problem arose again as concerns possible regular two-way communication between COPUOS and the ITU.

This in turn related to the third controversial question, namely the future role of this topic on the agenda of COPUOS and its Legal Subcommittee. Views could not be reconciled as to whether the item on the geostationary orbit should be deleted from the agenda, maintained but suspended for a certain period, or should lead to intensified discussion in the framework of mutual exchange of information between the two bodies.

The consultations were held in a constructive atmosphere of good faith, and no one could cast any doubt on the goodwill of the representatives participating in these endeavours. However, it became obvious that instructions from authorities limited the flexibility of certain delegations, and it became apparent that no agreement is to be reached during the present meeting.

My delegation would like to share with the Committee our evaluation of the situation. We set out with the belief that the longstanding controversy over sovereign rights with regard to the geostationary orbit might have disappeared, as the substance of discussions had shifted more to the subject of preferential access. This was too optimistic; some delegations still cannot accept the statement that the geostationary orbit is part of outer space and as such governed by the Outer Space Treaty.

In our opinion, this statement must be the common legal basis for any such resolution. If some delegations argue that such a reference is not necessary, then we believe that this is going in the wrong direction. The question is not whether such a reference is necessary, but whether this reference is acceptable, and this question was answered in the negative. We must ask ourselves why, if the geostationary orbit is not part of outer space, it is maintained on the agenda of the United Nations COPUOS?

As concerns preferential treatment, no delegation should be under the illusion of obtaining in COPUOS what cannot be achieved in the ITU. If the German delegation has accepted preferential treatment within the ITU, then this was due to the nature of some countries being developing countries rather than being equatorial countries. For example, why should Ecuador receive better treatment than Mexico, Nigeria better treatment than Morocco, or Indonesia better treatment than India?

The new controversy over the political or technical nature of the ITU is to my delegation not the real issue. There is no doubt that under its mandate and on the basis of its Constitution, ITU is a full-fledged specialized organization of the United Nations competent to deal with all relevant aspects of telecommunications, be they of a political, legal or technical nature. The real issue here is the question of whether and how this issue should be dealt with on the agenda of the Legal Subcommittee.

Under this agenda item, in past years fruitless discussions have taken place which have yielded no results and involved endless repetition. My delegation tried to look for a positive solution and we have put forward all the compromises possible. We have offered to suspend discussion of this issue for a few years, allowing all delegations a pause for thought. But if notwithstanding all these efforts it is not possible to obtain the slightest concession, then we are fighting a losing battle.

The German draft resolution entitled "Request to the International Telecommunication Union and its Member States: Ensuring equitable access to the geostationary orbit/radio frequency spectrum resources", as reproduced in Annex II of the report of the Legal Subcommittee (document A/AC.105/674) is withdrawn herewith.

The CHAIRMAN: Thank you for your report on the results of the informal consultations. There may now be an exchange of views on this subject. I give the floor to the distinguished representative of Ecuador.

Mr. L. ARIZAGA (Ecuador) *(interpretation from Spanish)*: I am making this statement on behalf of the Latin American Group who held a plenary meeting this morning to review the work of the present session of the Committee. GRULAC focused its attention on the subject of the geostationary orbit and reiterated its position at this morning's plenary, whereby it believes that this subject must continue to be discussed in the Committee and its Subcommittees.

Consequently, GRULAC believes that this subject should not be removed or suspended from the agenda of the Legal Subcommittee. Discussions should continue and the working group should be reconstituted at future sessions of the Subcommittee. GRULAC will follow closely developments in this important area.

I have made this statement on behalf of the ambassador of Bolivia, who is the President of GRULAC but who unfortunately had to attend another meeting at this particular moment. For its part, the delegation of Ecuador will make a statement at a later stage.

The CHAIRMAN: I now give the floor to the distinguished representative of France.

Mr. P. LOUET (France) *(interpretation from French)*: My delegation is satisfied with the solution reached. The proposal made by the German delegation was an honest, well formulated proposal which was appreciated by most delegations, and it is regrettable that we have not reached an agreement on it today. Perhaps we should try to examine other methods through which to arrive at a consensus on this subject: it is the task of our Committee to try and reach consensus decisions on controversial matters such as this.

The point my delegation is making here is that it is less usual in this Committee for delegations to categorically refuse to acknowledge the Treaty on the Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies — to give the "Outer Space Treaty" its proper name. When discussing a text amongst ourselves, a proposal to change a wording previously agreed might be made, and this brings discussions to a halt. If we are unable to refer to a treaty which was approved, signed and ratified by States, then this means the very basis of our work is in jeopardy.

The CHAIRMAN: I now give the floor to the distinguished representative of Ecuador.

Mr. S. MARTINEZ (Ecuador) *(interpretation from Spanish)*: My delegation would like to refer to Ecuador's participation in the course of the informal consultations on the working paper submitted by the German delegation.

Firstly, my delegation did give its comments earlier under agenda item 8 and made its position clear on the question of the geostationary orbit. During the informal consultations, we took an active and constructive part in the deliberations. The subject itself is not an easy one to negotiate, which is why discussions in both the Legal Subcommittee and COPUOS have been and remain complex. In view of the importance of this subject, we have said that a certain amount of time is needed to analyse the new proposal; all positions must be respected and taken into account. Only in this way can an agreement be reached by consensus.

My delegation acknowledges that through the working paper submitted by the German delegation the discussion on the geostationary orbit has been revitalized. Views of various countries have been clearly stated and it has become obvious that this subject merits further discussion at future sessions of COPUOS and its subsidiary bodies. My delegation, along with others, will follow developments on this question with great interest and will continue to play an active role in such discussions.

The CHAIRMAN: I now give the floor to the distinguished representative of Nigeria.

Mr. I. AYEWAH (Nigeria): My delegation would like to present its best wishes to you in presiding over this Committee.

My delegation wishes to state its views on the conclusions which have emerged from the informal discussions on the draft proposal submitted by Germany. There is of course a correlation of activities between COPUOS and the ITU, but my delegation cannot accept the argument that what cannot be achieved in the ITU may not be addressed, with a view to achieving results, by COPUOS.

The geostationary orbit is a subject which we have discussed for many years. There is a continuing necessity for the Committee to ensure that the geo-stationary orbit is accessible to all States, taking into account the specificity and nature of the orbit and the relation of various countries to it. We continue to believe that the equatorial States do have a legitimate claim to seeking preferential treatment.

The CHAIRMAN: I now give the floor to the distinguished representative of Greece.

Ms. H. MICHALOPOULOU (Greece): My delegation would like to express its deep disappointment that the initiative of the German delegation has met with no consensus regarding the fundamental concept that the geostationary satellite orbit is an integral part of outer space.

Due to this unfortunate situation, the Committee has lost a unique opportunity to make a substantial contribution to the work of the World Radiocommunication Conference of the ITU, and thus to achieve considerable progress on the important issue of equitable access to the geostationary satellite orbit.

The CHAIRMAN: I now give the floor to the distinguished representative of Japan.

Mr. H. AZUMA (Japan): After listening to the statement made by the distinguished representative of Germany, Japan would once again like to commend the German delegation for its contribution to the work of the Committee. It is regrettable that a consensus agreement has not been reached within the Committee on the draft resolution on the geostationary orbit contained in the German proposal.

My delegation reiterates its position, already stated, on this agenda item.

The CHAIRMAN: I now give the floor to the distinguished representative of the Russian Federation.

Mr. P. DZOUBENKO (Russian Federation) *(interpretation from Russian)*: Following the statements already made by the distinguished representatives of France and Greece, I can be brief. My delegation shares the views expressed by those two delegations, and we express our regret that it has not been possible at this session to obtain concrete results on this extremely important subject.

My delegation would like to express its gratitude to the German delegation, which during the last session of the Legal Subcommittee did its utmost to try and reach a compromise solution. We have shown the greatest possible flexibility with a view to reaching such a compromise, but this has unfortunately not been possible. Differences of opinion still exist and it was thus impossible to find consensus. My delegation will not be able to agree to any document which might make reference to the geostationary orbit not forming a part of outer space and not being regulated by the basic operating norms of the ITU.

The CHAIRMAN: I now give the floor to the distinguished representative of Canada.

Mr. W. LARSON (Canada): The Government of Canada wishes to join those other States which have thanked the German delegation for its constructive and positive proposal. We regret that no progress has been achieved on this issue. We also express regret that Germany has chosen to withdraw its proposal, as we believe this issue could have been discussed at some future point.

One possibility which remains would be to deal with the geostationary orbit in the same way as has been done with the issue of space debris — namely to ensure that if discussions on this are to continue in future, those discussions must be well thought out in terms of concrete workplans, as has been done concerning the subject of space debris. This would represent a constructive approach to this important issue, and we hope that a spirit of compromise can prevail when making the appropriate workplans.

The CHAIRMAN: I now give the floor to the distinguished representative of Czech Republic.

Mr. L. PEREK (Czech Republic): My delegation has made many statements on the geostationary orbit in the past. We have always tried to put forward the

scientific point of view, stressing the facts which have been established and recognized worldwide.

My delegation regrets that in the future we will be restricted to reiteration of what has already been said — unless there is a change in the views of some delegations, particularly those of the equatorial countries.

The CHAIRMAN: I now give the floor to the distinguished representative of India.

Mr. G. NAIR (India): My delegation appreciates the sincere efforts made by the German delegation to reach a consensus. All members who participated in the informal discussions cooperated in trying to achieve a positive result. However, the issues involved are complex; agreements were reached on many points but some differences of opinion still remain.

My delegation hopes that discussions will continue on this issue, and will particularly address these differences in view as identified by the distinguished representative of Germany.

The CHAIRMAN: I now give the floor to the distinguished representative of Indonesia.

Mr. A. NUR (Indonesia): My delegation supports the statement made by the distinguished representative of Ecuador, on behalf of GRULAC, that the agenda item on the geostationary orbit should remain on the Legal Subcommittee's agenda.

The CHAIRMAN: I now give the floor to the distinguished representative of Argentina.

Mr. O. REBAGLIATI (Argentina) *(interpretation from Spanish)*: My delegation is somewhat surprised that, four days before the scheduled end of the session, we are not able to reach a consensus. Other colleagues have already given their assessments of the options available. Experience has shown that major difficulties could be overcome in a comparatively short period, through informal consultations and negotiations.

My delegation can make no general proposals if it is felt that the opportunity for such consultations no longer exists. We agree with other States that we should do the utmost to achieve results on the discussion of this question. We nevertheless believe that great efforts have been made to try and achieve positive results. The contribution of the German delegation is a significant one, as are those from other delegations who have tried to find a common denominator. A collective effort is needed not only as concerns the number of people involved but also the kind of involvement in the consultations which took place.

If we are unable to reach a consensus on the fundamental treatment of this issue at this session, then my delegation would support the proposal of the distinguished representative of Canada. We must examine this question again, taking into account the contents of the draft resolution proposed by Germany and other possible approaches that might help us reach a solution regarding specific dimensions of equitable use of and access to the geostationary orbit. We may have to change our approach; perhaps we need to be a little less ambitious; and perhaps we should try to avoid certain basic definitions.

Without taking an overall decision on actual concept, it may be possible at a future session of the Legal Subcommittee to examine the issue and find a solution to these outstanding questions. All members should try and identify these questions in cooperation with the Secretariat.

The distinguished representative of Canada suggested that we enter into this individual inter-sessional exercise. My delegation believes that we must all try and produce specific questions, based on the work carried out to date, to try and overcome the divergent views. The Secretariat has a role to play in providing information on this subject, as in other areas, in order to focus our attention more clearly on what remains to be done in the future.

The CHAIRMAN: I now give the floor to the distinguished representative of Chile.

Mr. A. CELEDON (Chile) *(interpretation from Spanish)*: My delegation agrees with the statement made on behalf of GRULAC. The question of the geostationary orbit should be maintained on the Legal Subcommittee's agenda, and should be extensively debated in the future.

My delegation also expresses its appreciation to the German delegation for the draft resolution which it presented. This document has definitely helped to intensify discussion on this subject, and differing views have now been clarified. Perhaps more time was needed to discuss the draft resolution; it was submitted only at the last session of the Subcommittee. Two months later it has been intensively discussed, and possibly with more time a different outcome may have arisen. This kind of document helps to promote broad and honest discussion on this important issue, which should be maintained on the Subcommittee's agenda.

The CHAIRMAN: I now give the floor to the distinguished representative of Mexico.

Mr. V. ARRIAGA (Mexico) *(interpretation from Spanish)*: My delegation fully endorses the position expressed by GRULAC as concerns maintaining this item on the agenda of the Legal Subcommittee. My delegation greatly appreciates the efforts made by the German delegation in trying to help resolve this issue. Due to the interest that has been shown regarding the geostationary orbit, my delegation welcomes the proposal of the Canadian delegation to redefine the points for discussion. We are willing to help in evaluating and identifying those aspects of the geostationary orbit that require further examination.

The CHAIRMAN: I now give the floor to the distinguished representative of China.

Mr. HUANG Huikang (China) *(interpretation from Chinese)*: My delegation has made several statements on this agenda item. We would like to reiterate that patient consultations should continue on this important issue.

The following three approaches could be adopted in discussing the geostationary orbit. Firstly, we must try and achieve a consensus, which has always been our guiding principle. Secondly, a constructive approach needs to be adopted; we have encountered difficulties in trying to solve this problem, and therefore we agree with what has already been said by several delegations regarding the need for a constructive attitude. Lastly, we must try and demonstrate a true spirit of compromise, which will help lead to a successful result to our discussions. My delegation hopes that these three approaches will be given due consideration when reviewing this matter in the future.

The CHAIRMAN: I now give the floor to the distinguished representative of Morocco.

Ms. S. OTMANI (Morocco) *(interpretation from French)*: My delegation welcomes the document submitted by the Colombian delegation on the geostationary orbit and we regret that there was no follow-up to it during the last session of the Legal Subcommittee. We would also like to pay tribute to the German delegation for all their efforts to help reach a compromise.

My delegation supports the proposal by Canada, and would like to see this item kept on the Subcommittee's agenda so that discussion on it may continue.

The CHAIRMAN: I now give the floor to the distinguished representative of Brazil.

Mr. S. CALDAS MERCADOR (Brazil): As my delegation has already stated in several plenary meetings, Brazil holds the view that the subject of the geostationary orbit should be maintained on the agenda of the Legal Subcommittee. We also pay tribute to the German delegation, who presented a very interesting proposal; unfortunately it was not possible to reach consensus on it. We support the views expressed by many other delegations that the item must continue to be discussed in the Subcommittee.

The CHAIRMAN: I give the floor to the distinguished representative of the Islamic Republic of Iran.

Mr. F. JAHEDI (Islamic Republic of Iran): My delegation would like to associate itself with the views expressed by the Group of 77 on this issue. We feel this item must remain on the agenda of the Legal Subcommittee in the hope that future deliberations will help us to reach a compromise solution in the future.

The CHAIRMAN: I now give the floor to the distinguished representative of Poland.

Mr. R. GALAZKA (Poland): My delegation shares the views already expressed this morning by a number of delegations, in particular the delegations of Greece, Russian Federation and Canada. We regret that it was not possible to reach a consensus on this issue, but we hope that despite this we have still achieved some progress in the debate on this issue.

My delegation expresses its appreciation to the German delegation for an excellent piece of work in preparing the draft resolution. We hope it will form the basis for further discussions on this subject.

The CHAIRMAN: I now give the floor to the distinguished representative of Colombia.

Ms. A. BONILLA (Colombia) *(interpretation from Spanish)*: My delegation fully supports the statement made on behalf of GRULAC. We also appreciate the efforts made and encouragement provided by the draft resolution of the German delegation. We will continue to closely follow the work carried out on this important subject within the Legal Subcommittee.

My delegation welcomes the proposal made by the distinguished representative of Canada to identify those points which should be further debated in order to try and reach a consensus.

The CHAIRMAN: Are there any further contributions from delegations on this subject? I see none.

I am grateful to those delegates who have expressed their views on this very difficult and controversial subject. There is a saying that there are two ways of looking at every situation: for example, a glass can be either half-empty or half-full. Being an optimist, after listening to the statements made, a considerable amount of consensus exists. Everyone appreciates the efforts made by the German delegation, as well as the cooperative atmosphere in which the informal consultations took place; one step has at least been taken in the right direction.

However, it is true that we have been unable to conclude our discussion under this agenda item. Many delegations have supported the proposal by the distinguished representative of Canada in saying that constructive discussions should continue on this item. There is, however, a problem of a technical nature. The distinguished representative of Germany has withdrawn the working paper which formed the basis for the discussions. Is it possible that the German delegation may wish to reintroduce the working paper so that discussions on it may continue? I give the floor to the distinguished representative of Germany.

Mr. G. FULDA (Germany): As I said, the draft resolution is withdrawn. My delegation feels that fruitful discussions on this subject can only start again if some delegations radically change their positions. Until that is done, further discussions would be pointless.

The CHAIRMAN: I now give the floor to the distinguished representative of Nigeria.

Mr. I. AYEWAH (Nigeria): My delegation thought that perhaps the Secretariat might suggest the appropriate manner in which to proceed at this point in time. Germany has decided to withdraw its working paper, and this subject is important enough that we are all interested in continuing discussions on it. Consensus has been reached on the fact that this topic must continue to be discussed, and therefore there should be a way to retain this topic on the agenda of both the Legal Subcommittee and the Committee itself.

It would therefore be helpful if the Secretariat could give us their views on this point.

The CHAIRMAN: The subject will in any event remain on the agenda of the Subcommittee. The question is rather whether the German delegation would be interested in reintroducing their working paper either now or at a later stage. It is a very positive sign to see that so many delegations wish to continue discussions on this matter. Before asking Dr. Jasentuliyana to reply, I will now give the floor to the distinguished representative of Argentina.

Mr. O. REBAGLIATI (Argentina) *(interpretation from Spanish)*: My delegation believes it would be very helpful to have Dr. Jasentuliyana's contribution concerning this issue, on the basis of the proposal by the distinguished representative of Nigeria.

Useful background work has been prepared, namely the draft proposal submitted by Colombia, and the draft resolution proposed by Germany, which has been withdrawn but which has not disappeared. The paper still exists, albeit without a sponsor. There is a possibility that the distinguished representative of Canada might produce some suggestions as to how to focus discussion on this subject in the future. All delegations could offer their suggestions to the Secretariat during the inter-sessional period, and last but not least, the Secretariat too may make some proposals before the next session of the Legal Subcommittee.

There is therefore scope for continued discussion of this subject on the basis of the documents which already exist and others which may be produced in the months to come, before the next session of the Subcommittee.

The CHAIRMAN: I now give the floor to the distinguished representative of Canada.

Mr. W. LARSON (Canada): My delegation would like to reiterate what we previously stated. I also apologize for any confusion caused; many States, including my colleague from Germany, misunderstood what was said, and I would therefore like to repeat it.

My delegation's position is as follows. Canada supports the proposal of the German delegation that this item should be completely withdrawn from discussion in COPUOS and its subsidiary bodies. That is our first objective, and we welcome the constructive and positive proposal of Germany for achieving that objective. However, there is such a reluctance on the part of some States to meet Germany halfway and make some compromise on this very constructive proposal. Therefore a possible alternative might be that this discussion only be continued in future if those States wanting to continue the discussion propose concrete annual workplans, itemizing exactly what should be discussed, as has been the case concerning the subject of space debris.

Discussion would therefore not continue unless such concrete workplans come into being; discussion would not continue willy nilly as it has for many years but would continue at a concrete and practical level. That was the point my delegation wished to make, and I apologize for any misunderstanding.

The CHAIRMAN: I now give the floor to the distinguished representative of Ecuador.

Mr. L. ARIZAGA (Ecuador) *(interpretation from Spanish)*: The position of the Canadian delegation has now been clarified: they feel discussion of this issue should be suspended until such time as a concrete workplan is drawn up. My delegation has respectfully taken note of this proposal, but does not endorse it.

The position of GRULAC and the Group of 77 has been perfectly clear: this subject should be maintained on the Legal Subcommittee's agenda and substantive discussion of it should continue. At future meetings we will have before us the proposal of Colombia, as well as the draft working paper of Germany, which has been withdrawn but which can serve as a reference document, and other proposals or suggestions which may materialize from discussions here.

The CHAIRMAN: I now give the floor to the distinguished representative of Brazil.

Mr. S. CALDAS MERCADOR (Brazil): On a point of order, I assume that the statement by the distinguished representative of Canada is the position taken by his country: he is not making any proposal. He stated that he favoured the withdrawal or suspension of the subject from the Subcommittee's agenda, but this is Canada's position only. My delegation would appreciate clarification on this point as at present no actual proposal exists.

The CHAIRMAN: I now give the floor to the distinguished representative of Canada.

Mr. W. LARSON (Canada): My delegation's position is that it would be far more preferable to proceed with discussion on the draft resolution proposed by Germany, and that it should not be withdrawn. In the absence of that possibility, then we would perhaps support a proposal that States wishing to discuss this issue should submit concrete workplans. Failing that, consideration of this issue should be suspended within COPUOS and its subsidiary bodies until such time as those workplans are submitted and agreed to by consensus.

The CHAIRMAN: I now give the floor to the distinguished representative of Chile.

Mr. A. CELEDON (Chile) *(interpretation from Spanish)*: It is perfectly clear to my delegation that the item on the geostationary orbit remains on the agenda of the Legal Subcommittee. We appreciate the importance of this subject; we need further clarification as to whether the German working paper which has now been withdrawn, unfortunately, could perhaps be kept as an unofficial non-paper of the Subcommittee.

The CHAIRMAN: At this point in time I would like to request Dr. Jasentuliyana to provide some clarification.

Mr. N. JASENTULIYANA (Director, Office for Outer Space Affairs; Deputy Director-General, United Nations Office at Vienna): It is for the Committee to decide how we should proceed on this matter. I can only note the following.

The item is presently on the agenda of the Legal Subcommittee, and until such time as a consensus decision is taken by the Committee to suspend or discontinue discussion on it, it remains on the Subcommittee's agenda. At the next session of the Subcommittee, the working paper submitted by Colombia will be available, as well as a paper (L.205) prepared by the Secretariat and the ITU jointly on the compatibility of the Colombia paper. These two papers are annexed to the Subcommittee's report. As far as I can see, the Legal Subcommittee has recommended that this item be maintained on its agenda.

With regard to the working paper submitted by Germany, it is for the German delegation to decide whether they wish to reintroduce it in the same or an amended form at the next session of the Legal Subcommittee. The distinguished representative of Chile has proposed that it could take the form of a non-paper; it is possible for the text to be adopted by delegations as a non-paper for discussion purposes at the next session of the Subcommittee.

The CHAIRMAN: I wonder if you would kindly clarify the status of discussion on this subject in this Committee.

Mr. N. JASENTULIYANA (Director, Office for Outer Space Affairs; Deputy Director-General, United Nations Office at Vienna): For the time being, it is my understanding that the German delegation has withdrawn the document. Therefore, for the time being the Committee wishes to conclude its discussion on this

subject at the present session, and resume discussion on it at the next session of the Legal Subcommittee, as I outlined above.

The CHAIRMAN: I now give the floor to the distinguished representative of China.

Mr. HUANG Huikang (China) *(interpretation from Chinese)*: My delegation has two points of procedure which it would like to mention. Firstly, concerning the status of the working paper submitted by Germany, the intention of this proposal was that the draft resolution could be submitted to the ITU in time for the World Radiocommunication Conference, to be held in October 1997. If COPUOS cannot reach a consensus at the present session, this opportunity will be lost to us. The question which then arises is whether we should discuss this draft resolution at next year's session.

Secondly, as the World Radiocommunication Conference does present a good opportunity for submission of the document, we should try and take advantage of it. My delegation therefore wonders if it might be possible to transform the working paper submitted by Germany into a Chairman's working paper. When we discussed the Declaration on cooperation in outer space, which was approved at the last session, there were at that particular point two working papers. One was submitted by ten countries, including Brazil. Another was submitted by France and Germany. After several rounds of discussions we formulated this as a Chairman's working paper.

At the last session of the Legal Subcommittee, Germany submitted a working paper, and after much discussion in the Subcommittee a revised version of this document appeared. Therefore my delegation believes that this document does not constitute only the original document submitted by the German delegation: it also includes the views of many other delegations. Therefore, to simply withdraw this working paper is very regrettable as it means that a great amount of effort made by many delegations would be lost. We therefore hope that at the present session, we can try to benefit from all the valuable work carried out to date.

The CHAIRMAN: I would like to ask Dr. Jasentuliyana to clarify the legal position in this context.

Mr. N. JASENTULIYANA (Director, Office for Outer Space Affairs; Deputy Director-General, United Nations Office at Vienna): There is little more I can say. The delegation of China is correct in saying that the text of the German working paper was intended to be submitted to the World Radiocommunication Conference. However, ITU does hold other conferences, including the general conference in 1998. If agreement is reached on an appropriate text for submission to the ITU, there are other conferences to which such text can be submitted.

The delegation of China quite rightly stated that the revised version of the text contains ideas and views of other delegations. Nevertheless, the revised version was presented by the German delegation and it therefore remains their proposal, although it took into account certain discussions within the Legal Subcommittee. If there are no objections from delegations, it is possible to consider adoption of the text as a Chairman's paper, as proposed by the delegation of China.

The CHAIRMAN: I now give the floor to the distinguished representative of Nigeria.

Mr. I. AYEWAH (Nigeria): Debate on this item seems to be dragging on *ad infinitum*. My delegation believes that the position of Germany, in present the working paper, simply provided a perspective on the question; that is all. States have reacted to that perspective, which in turn resulted in a revised document. Germany retains the prerogative to either continue or withdraw its paper. It has taken the decision this morning to withdraw it. Therefore, this Committee has taken due note of Germany's position.

The Director of the Office for Outer Space Affairs has informed us that the Legal Subcommittee already has documentation available on this item for its meeting in 1998. We should thus proceed on that basis; if at that point in time the German delegation should hold a different view on the submission of the document, it may act accordingly. But until that point, the paper has been withdrawn.

The CHAIRMAN: The technical position is very clear: the controversial issue of the geostationary orbit will remain on the agenda of the Legal Subcommittee, which has two documents before it for discussion.

As concerns whether the German delegation would like to reconsider the reintroduction of the working paper which has been withdrawn this morning, is there consensus among delegations that that paper should be introduced as a Chairman's working paper? If there is consensus, then we can proceed accordingly. Otherwise, as has been stated by the distinguished representative of Nigeria, the Legal Subcommittee will continue its discussions in the light of the two documents

which already exist, and the German delegation may reintroduce their document if they so wish.

I now give the floor to the distinguished representative of Peru.

[Mr. L. CABRERA?] (Peru) *(interpretation from Spanish)*: Briefly, my delegation believes the statement made by the distinguished representative of Nigeria is very clear. The German delegation has withdrawn its working paper and therefore no further elaboration is necessary. At some future point it may be useful to consider this document in the Legal Subcommittee.

However, my delegation considers that any different interpretation of the document — such as adopting it as a Chairman's working paper — would not be appropriate at this point in time.

The CHAIRMAN: I now give the floor to the distinguished representative of Ecuador.

Mr. L. ARIZAGA (Ecuador) *(interpretation from Spanish)*: My delegation wishes to associate itself with what has just been said by the delegations of Nigeria and Peru.

The CHAIRMAN: I now give the floor to the distinguished representative of Greece.

Ms. H. MICHALOPOULOU (Greece): As my delegation understands it, those States wishing to keep an item on the agenda of the Legal Subcommittee should forward respective workplans. I would therefore like, through the Chair, to ask those interested delegations whether they intend to do this, independently of any documentation which already exists.

The CHAIRMAN: May I ask Dr. Jasentuliyana to respond on this point.

Mr. N. JASENTULIYANA (Director, Office for Outer Space Affairs; Deputy Director-General, United Nations Office at Vienna): There seems some confusion here, which I would like to clarify. If a new item is to be added to the agenda, then those delegations proposing such an item must present a workplan. But for those items already on the agenda, delegations may make suggestions — but this is not an obligation in order to keep the item on the agenda. As I mentioned, there are already two papers before the Legal Subcommittee under this item.

The CHAIRMAN: We have had an interesting discussion on this item. Some progress has been made; with the clarifications provided, the item remains on the Legal Subcommittee's agenda for future discussion.

Since no consensus has been reached as regards converting the working paper submitted by Germany into a Chairman's working paper, we will proceed on the understanding that the item will continue to be discussed in the Legal Subcommittee, with the two documents already referred to before it. We have thus therefore concluded our discussion on agenda item 8.

I will shortly adjourn this session of the Committee. Before doing so, I would like to remind delegates that the draft report has already been circulated, allowing time for its consideration. We will reconvene at 3 p.m. to discuss the draft report in informal session. The meeting is now adjourned.

The sitting adjourned at 12.30 p.m.

Committee on the Peaceful Uses of Outer Space

Unedited transcript

442nd Meeting
Tuesday, 10 June 1997, 3 p.m.
Vienna

Chairman: Mr. RAO (India)

The meeting was called to order at 3.10 p.m.

The CHAIRMAN: I now declare open the 442nd meeting of the Committee on the Peaceful Uses of Outer Space.

Now that we have concluded our informal consideration of the draft report paragraph by paragraph, we will proceed with the formal adoption of the report. As is our custom, we will adopt the report section by section. Delegations wishing to place their views on record may do so when the appropriate section is under consideration.

Before continuing, on behalf of the Committee I would like to thank the Vice-Chairman, Ambassador Raimundo González (Chile) and the Second Vice-Chairman, Mr. Mouslim Kabbaj (Morocco), as well as the Secretariat for their work in preparing the final report. The fact that we were able to conclude our consideration of it in half a day shows that it was an excellent piece of work.

Document A/AC.105/L.214

The CHAIRMAN: *Paragraphs 1 to 19 are adopted.* Are paragraphs 20 to 26, "Ways and means of maintaining outer space for peaceful purposes", and paragraph 1 of document A/AC.105/1997/CRP.7, adopted? *Paragraphs 20 to 26, and paragraph 1, are adopted.*

Document A/AC.105/L.214/Add.1

The CHAIRMAN: This document contains the report of the Scientific and Technical Subcommittee. Are paragraphs 1 to 76, as well as paragraphs 2 and 3 of document A/AC.105/1997/CRP.7, adopted? *Paragraphs 1 to 76, and paragraphs 2 and 3, are adopted.*

Document A/AC.105/L.214/Add.2

The CHAIRMAN: Are paragraphs 1 to 25, on the report of the Legal Subcommittee, adopted? *Paragraphs 1 to 25 are adopted.* Are paragraphs 26 to 32, on the spin-off benefits of space technology, adopted? *Paragraphs 26 to 32 are adopted.*

Are paragraphs 33 to 41, on "Other matters", adopted? *Paragraphs 33 to 41 are adopted.* Are paragraphs 42 to 48, on future work and schedule of meetings, adopted? *Paragraphs 42 to 48 are adopted.*

Document A/AC.105/L.214/Add.3

The CHAIRMAN: This document contains the report of the Preparatory Committee for UNISPACE III. Are paragraphs 1 to 15 adopted? *Paragraphs 1 to 15 are adopted.*

Document A/AC.105/L.214/Add.4

The CHAIRMAN: This document contains the amendments to the report of the Committee. Are the paragraphs contained in this document, as well as paragraph 4 of document A/AC.105/1997/CRP.7, adopted? *These paragraphs are adopted.*

I give the floor to the distinguished representative of Ecuador.

Mr. L. ARIZAGA (Ecuador) *(interpretation from Spanish)*: Not only paragraph 4 but also paragraph 5 of document A/AC.105/1997/CRP.7 should be adopted.

The CHAIRMAN: Are the paragraphs contained in document A/AC.105/L.214/Add.4, as well as both paragraphs 4 and 5 of document A/AC.105/1997/CRP.7, adopted? *These paragraphs are adopted.*

Is the report of the Committee on the Peaceful Uses of Outer Space adopted as a whole? *The report is adopted.*

I would like to thank distinguished delegates for your cooperation during this session of the Committee. As it is the first time I have experienced the proceedings from this side of the table, I would like to make some concluding remarks.

Concluding remarks by the Chairman

The CHAIRMAN: We have achieved substantial progress on many important issues. In particular, I would like to express my satisfaction with the significant progress achieved as Preparatory Committee for UNISPACE III. The Committee has followed the mandate given to it by the General Assembly and has also charted the way for consideration of space activities in the Committee in the future, through international cooperation. The progress achieved also helps to ensure that the benefits of space science and technology are enjoyed by all countries.

Unfortunately we were unable to reach a consensus on the working paper submitted by the delegation of Germany concerning the geostationary orbit. I look forward to continuing our discussions on this important subject at next year's session of the Legal Subcommittee as well as in this Committee. The intensive discussions held this year will be of significant value to next year's deliberations.

The congenial atmosphere of Vienna has undoubtedly proved conducive to our work and has helped to highlight the spirit of cooperation which prevails among delegations. I would like to thank all of you for your cooperation; the staff of the Office for Outer Space Affairs, who have been so active and diligent; and all conference services staff, who helped make this session a success.

I would like to leave a few thoughts with you. When we started our discussions on UNISPACE III, it was with a great vision. We must essentially solidify our views in this regard. I have hopes and dreams that UNISPACE III will ultimately help lead us to a more equitable world. The world is not a global village in the technical sense, as I mentioned before. One would like to see the benefits of high technology, in particular space technology, reaching the most underdeveloped of the developing countries, and for the betterment of humankind at large.

We all know that interconnectivity, be it to the atmosphere, the geosphere or the biosphere, has made all nations interdependent. There is no point in saying that we have affluent areas and non-affluent areas. What happens in one place affects other places — whether it is the depletion of the ozone layer, destabilization of the greenhouse equilibrium, volcanic eruptions affecting rain precipitation, drought conditions, or flooding.

Can we find global solutions to these problems? Solutions which will be valid for the entire world, whether it is in terms of international global monitoring of the environment and disaster warning systems, or improvement of the communication infrastructure. Today, broadcasting itself has progressed very rapidly: TV broadcasting has taken root but in the developing countries, there is still only one telephone for every 100 people, as opposed to one telephone for every two people in the developed countries. Rural communications are still poor and in some cases non-existent.

We talk about telemedicine; but basic health care information is not even available in many cases. Today we do have the technology to change this. Can we do our utmost, through UNISPACE III, to try and see that some international global system is formed? That should be our vision, a vision where there is a certain amount of equity across the world and thus all people can have a reasonable quality of life. If we can succeed in making this dream come true, to whatever extent, then UNISPACE III will indeed be a great success.

I thank you all for your cooperation, without which we would not have concluded our session more than two days ahead of our scheduled date. The meeting is adjourned.

The session closed at 3.45 p.m.